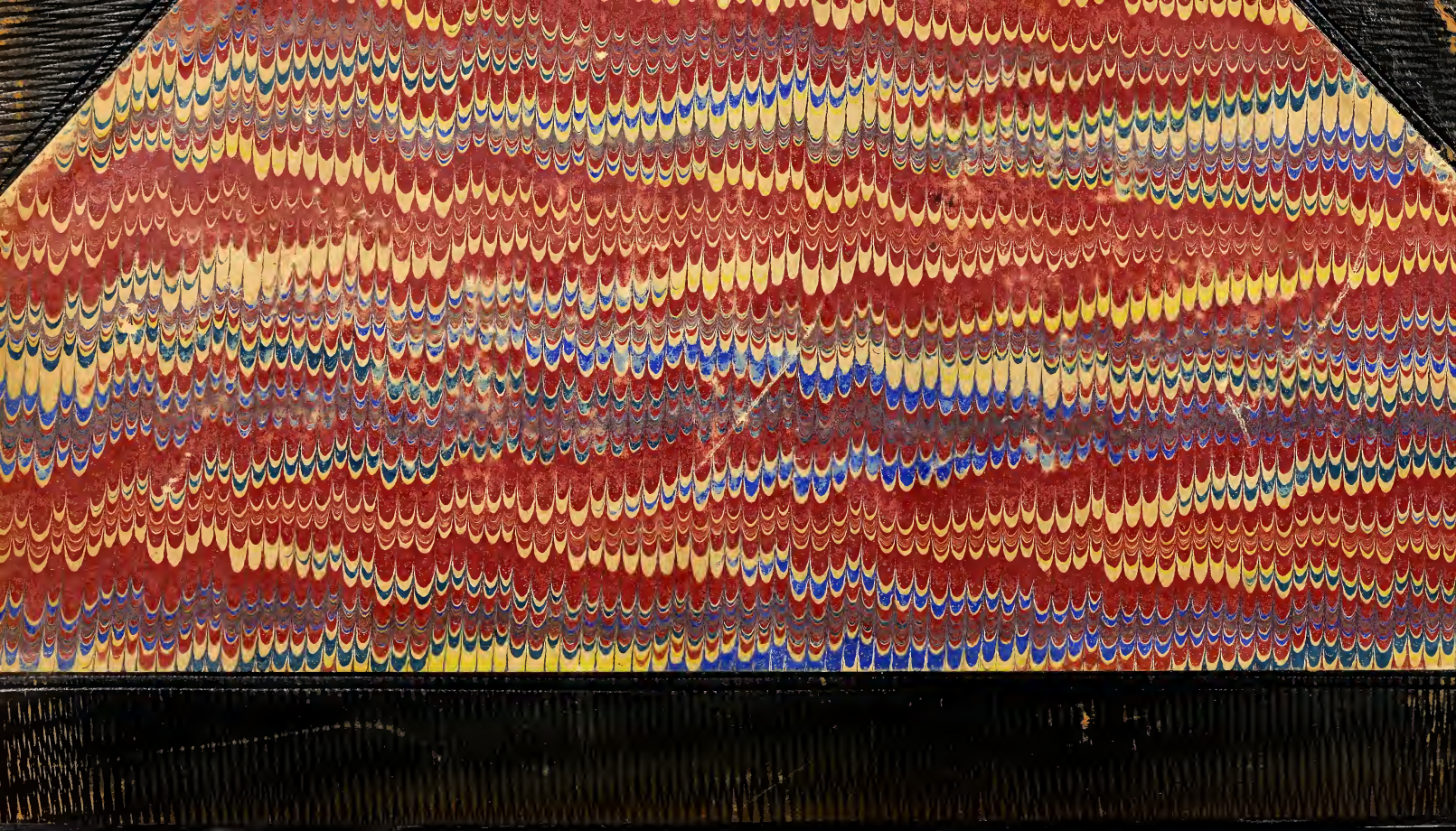

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FREIGHT RATES—PACKET COMPANIES—Continued.

MEMPHIS AND OHIO RIVER PACKET COMPANY—Continued.

Articles.	Memphis to—			Memphis from—		
	Cairo.	Louisville.	Cincinnati.	Cairo.	Louisville.	Cincinnati.
Hay, pressed in bales ..... per 100 lbs..	$0 15	$0 15	$0 15	$0 15	$0 20	$0 20
Lard, in tierces ..... do....	15	15	15	12½	15	15
Lumber ..... per 1,000 ft..	7 00	7 00	7 00	10 00	10 00	10 00
Pork, salted, in barrels ..... per bbl..	30	30	30	25	30	40
Potatoes:						
Common, sacks or barrels ..... per bbl..	20	20	20	15	25	25
Sweet, sacks or barrels ..... do....	20	20	20	15	25	25
Salt ..... per bbl..	20	20	20	20	30	30
Wool:						
Foreign, pressed in bales ..... per 100 lbs..	25	25	25	25	40	50
Domestic, in bags ..... do....	25	25	25	25	40	50
Cotton ..... per bale..	50	50	50	75	75	75
Cattle ..... per head..	1 50	1 50	1 50	3 00	4 00	3 00
Horses ..... do....	2 50	3 00	3 00	4 00	5 00	4 00
Sheep ..... do....	50	50	50	50	60	60
Hogs:						
Live ..... per head..	75	75	75	60	75	75
Dressed ..... per carcass ..	50	50	50	50	60	60
Grain ..... per 100 lbs..	12½	12½	12½	15	15	15
Tobacco, unmanufactured, in hogsheads ..... do...	20	20	20	25	30	35

FREIGHT RATES—STEAMBOAT COMPANIES.

DETROIT AND CLEVELAND STEAM NAVIGATION COMPANY.

Articles.	Detroit to—		Detroit from—	
	Cleveland.	Mackinaw.	Cleveland.	Mackinaw.
Agricultural implements ..... per 100 lbs.	$0 15	$0 20	$0 15	$0 20
Apples ..... do.....	10	15	10	15
Bacon ..... do.....	8	12½	8	12½
Beef, salted, in barrels ..... do.....	8	12½	8	12½
Butter, in tubs or firkins ..... do.....	18	20	18	20
Cheese, in boxes or casks ..... do.....	15	20	15	20
Fertilizers, in bags ..... do.....	6	10	6	10
Flour ..... do.....	8	12½	8	12½
Hay, pressed, in bales ..... per ton	2 00	2 50	2 00	2 50
Lard, in tierces ..... per 100 lbs.	8	12½	8	12½
Pork, salted, in barrels ..... do.....	8	12½	8	12½
Potatoes:	8	12½	8	12½
Common, sacks or barrels ..... do.....				
Sweet, sacks or barrels ..... do.....	10	15	10	15
Salt, in bags ..... do.....	8	12½	8	12½
Wool:	15	20	15	20
Foreign, pressed, in bales ..... do.....				
Domestic, in bags ..... do.....	20	25	20	25
Cattle ..... per head	2 00	3 00	2 00	3 00
Horses ..... do.....	3 00	4 00	3 00	4 00
Sheep ..... do.....	40	50	40	50
Hogs, live ..... do.....	50	60	50	60
Hogs, dressed ..... per 100 lbs.	15	25	15	25
Grain ..... do.....	8	12½	8	12½
Tobacco, unmanufactured, in hogsheads ..... do.....	10	15	10	15

DEPARTMENT OF AGRICULTURE.

SPECIAL REPORT—No. 61.

REPORT

ON THE

AREA OF CORN, POTATOES, AND TOBACCO,

AND THE

CONDITION OF GROWING CROPS

IN THE

UNITED STATES AND EUROPE,

WITH A REPORT ON

RATES OF TRANSPORTATION.

JULY, 1883.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1434 1883.

JULY REPORT.

DIVISION OF STATISTICS,
DEPARTMENT OF AGRICULTURE,
July 12, 1883.

SIR: I submit herewith, for publication, a report of the acreage of corn, potatoes, and tobacco and on the condition of cotton, corn, winter and spring wheat, rye, barley, oats, potatoes, beans, sorghum, the grasses, and various fruits.

Tables showing changes in rates of transportation are also presented.

Respectfully,

J. R. DODGE,
Statistician.

Hon. GEORGE B. LORING,
Commissioner.

THE CROPS IN JULY.

CORN.

The rainfall of the spring and early summer has been unfavorable for corn planting, and for germination when planted. Much of the late crop was not sufficiently matured for seed, and this fact increased the area of replanting. On the other hand, the winter-killing of extensive areas of wheat rendered necessary a replanting in some spring crop. From this cause a large extension of the breadth in maize is due in the central States of the West.

The area of the corn crop has been increased about two and a half million acres, making the aggregate sixty-eight million acres. There has been some extension of area in nearly every State. The proportion of increase is large in the northwest and in the southwest. On the coast from Virginia to the Mississippi the advance has been small. In some places the reduction of price from enlargement of supply last year had a discouraging effect.

There has been too much rain in the great Western maize districts, and failure of stands from planting poor seed, making the crop late and growth small, but improvement has of late been rapid. Taking all the States together, the average for corn is 88, against 85 last July, 90 in 1881, and 100 in 1880.

The averages of the principal States are as follows: New York, 84; Pennsylvania, 89; Ohio, 83; Michigan, 73; Indiana, 90; Illinois, 82; Kansas, 98; Nebraska, 87; Dakota, 78. In the South averages range from 90 in Tennessee to 103 in Louisiana.

States.	Acres.	States.	Acres.
Maine	30, 367	Ohio	3, 067, 010
New Hampshire	38, 014	Michigan	911, 165
Vermont	59, 293	Indiana	3, 541, 482
Massachusetts	58, 262	Illinois	8, 151, 463
Rhode Island	12, 947	Wisconsin	1, 106, 068
Connecticut	57, 001	Minnesota	727, 155
New York	761, 423	Iowa	6, 980, 621
New Jersey	346, 971	Missouri	5, 878, 364
Pennsylvania	1, 402, 127	Kansas	4, 708, 473
Delaware	208, 182	Nebraska	2, 813, 303
Maryland	691, 542	California	100, 607
Virginia	1, 881, 568	Oregon	5, 504
North Carolina	2, 470, 517	Nevada	847
South Carolina	1, 374, 869	Colorado	21, 287
Georgia	2, 719, 535	Arizona	2, 736
Florida	395, 994	Dakota	270, 058
Alabama	2, 277, 338	Idaho	1, 627
Mississippi	1, 834, 923	Montana	502
Louisiana	924, 693	New Mexico	46, 506
Texas	3, 608, 362	Utah	13, 340
Arkansas	1, 740, 372	Washington	2, 672
Tennessee	3, 212, 952		
West Virginia	588, 233	Total	68, 304, 685
Kentucky	3, 258, 410		

This return of acreage is subject to correction upon subsequent investigation of possible errors or omissions in the county estimates of our correspondents. It is published provisionally, but it should be understood that the authentic estimates of area are made only at the close of the year, after thorough investigation of all the returns of the year, which are compared and discrepancies harmonized. The annual estimates thus made are for future reference and comparison, and such only are used by the honest investigator, while the manipulator of statistics for private ends will quote or misinterpret details and ignore authenticated results. The figures above are given, therefore, as a preliminary and tentative showing of the corn acreage of 1883.

A few quotations from remarks of correspondents are appended, as local lights and shadows of the crop prospect. In a careless reading of these fragmentary notes there is danger of an utter misapprehension of the tenor of the returns, which are accurately presented in the tabular averages, while the notes may relate only to striking or abnormal features of the crop status. These averages are a consolidation of local estimates after correction and revision. Some intelligent persons have gravely criticised the report, upon a bare examination of the notes, as a partial and meager exhibit, when the estimates may have represented every county in a State.

While correspondents are encouraged to give a word of explanation with their estimates, it is manifestly impracticable to print all remarks; nor is a report made up in the effusive and indefinite verbiage which characterizes the random crop reporting of the day worth consideration. It is of no practical utility unless its constituent elements have each a mathematical value susceptible of consolidation in an aggregate. There must ever be a risk of error in the local estimates, but there need be no misconstruction of the precise meaning of those estimates by the use of vague terms instead of exact figures. The following extracts are given:

MAINE.—*Oxford:* Good stand and growing finely. *Somerset:* Acreage decreased; too wet to plant. *Piscataquis:* Planted late, and is backward. *Waldo:* Has first-rate appearance.

NEW YORK.—*Niagara:* Owing to excessive rains, replanting was very late; the plant is very small, but is thrifty. *Steuben:* June has been a growing month; looks well. *Albany:* Planted late and is backward. *Cayuga:* The spring was very backward; corn is small. *Livingston:* Too wet for corn. *Orange:* Though planted late, weather has been so favorable that it is above an average. *Onondaga:* Late; not much worked yet. *Ontario:* Continued rains prevent working; it is getting weedy. *Genesee:* Excessive rains have prevented working it. *Seneca:* Too much rain for corn. *Orleans:* Backward; season has not been favorable. *Herkimer:* Good on well-drained land. *Chautauqua:* Too wet and cold for corn. *Cattaraugus:* Wet weather has retarded growth. *Wayne:* Excessive rains are drowning it on low lands unless well drained; many acres ruined; has rained for six weeks. *Ulster:* Growing rapidly; weather fine. *Madison:* Backward; too much rain; full of weeds. *Sullivan:* Too much frost in May; too much rain in June.

NEW JERSEY.—*Warren:* A little uneven, owing to second planting. *Burlington:*

Good stand; well cultivated. *Salem:* Is backward, but looks well. *Gloucester:* Very backward, but improving rapidly.

PENNSYLVANIA.—*Forest:* Wet weather caused a low condition. *Fulton:* Has been too wet. *Lawrence:* Backward; too much rain has prevented proper work, and it is weedy. *Allegheny:* Is very small. *Lancaster:* Late rains have much improved prospect. *Juniata:* Too much rain to work it properly. *Perry:* Corn is backward. *Northampton:* Late planting and excessive rains have destroyed prospect for full crop. *Columbia:* Too wet; the stand is poor. *Elk:* Excessive rains caused late planting; the corn is small and grassy. *Cambria:* Corn is very short. *Cameron:* Too much rain. *Bedford:* Short, but improving. *Lehigh:* Farmers had trouble in getting stand; looks well now. *Beaver:* Cold rains have retarded growth. *Sullivan:* Season is favorable, and it is improving. *McKean:* Too wet to plant full crop. *Cumberland:* Growing rapidly. *Blair:* Planted late and is small, but is growing well. *Wayne:* June weather very favorable. *Venango:* Excessive rains prevented proper culture. *Crawford:* Backward; partly worked; good color. *Butler:* Very backward, but favorable in future; may make an average crop.

MARYLAND.—*Worcester:* Though backward, is vigorous and strong. *Kent:* Was planted late and is backward, but looks well. *Harford:* Has improved wonderfully during June. *Alleghany:* Late in coming up; bad stand. *Caroline:* Never looked better at this date. *Carroll:* Short, but well set.

VIRGINIA.—*Goochland:* Late, but has been well worked. *Isle of Wight:* At least 10 per cent. destroyed by cut-worm. *Floyd:* Was planted late. *Buchanan:* An excellent prospect. *Patrick:* Growth retarded by drought. *Rappahannock:* Backward, owing to cool spring. *Clarke:* Seasons is most favorable for corn. *Northumberland:* The destruction by bud-worm has been very great. *Mecklenburgh:* Fine growth from recent rains. *Halifax:* Healthy and promising. *Henrico:* Dry weather prevented the planting of much corn. *Greenville:* Generally backward, but recent rains are bringing it out. *Fluvanna:* Recent favorable rains put it in fine growing condition. *Bedford:* Late, and greatly injured by wire-worm. *Amherst:* June rains caused great improvement. *Matthews:* Owing to cool, dry spring, is backward and stand is poor. *Campbell:* Came up badly; much had to be replanted. *Charlotte:* Condition is rapidly improving. *Prince George:* Very backward. *Appomattox:* Recent rains greatly improved crop. *Augusta:* Has been well cultivated, and may make good crop yet. *Frederick:* Has grown wonderfully in last two weeks. *Northampton:* Late rains have done great good. *Wise:* doing well now. *Wythe:* Drought during May and part of June did great damage. *Richmond:* Was checked by drought, but rains have come and it is improving. *Montgomery:* Wet spring prevented planting of some, and has checked growth. *Botetourt:* Backward on account of drought.

NORTH CAROLINA.—*Richmond:* Very promising. *Sampson:* May was too dry and June has been too wet. *Edgecombe:* Bad stand in low lands. *Wake:* Small, but growing rapidly. *Bladen:* Injured by rains on lower lands; the stand too is poor. *Caldwell:* Small, but fair stand and good color. *Jones:* Grassy. *Lenoir:* Very backward; about three fifths of a stand; bud-worms the cause. *Jackson:* Dry, cold weather has held it back. *Gates:* Too much rain and cold weather. *Pasquotank:* Too many heavy rains for the last 20 days. *Tyrrell:* Backward spring; have prospect now of reasonable crop. *Dare:* Late planted; on low lands injured by wet weather. *Currituck:* A great deal of rain in June; corn is very grassy. *Union:* Showers the last week in June gave rapid growth. *Swain:* The stand is poor; bud-worms the cause. *Transylvania:* Not doing well on account of worms. *Pamlico:* Much of it plowed up and replanted the third time, and the stand is imperfect yet. *Martin:* Has suffered much from heavy rains, especially on low lands; cannot make full crop. *Duplin:* Is clean and growing rapidly. *Anson:* Very backward; due to cold spring. *Stokes:* Suffered from freshets; stand is not good. *Randolph:* The stand is very poor; cold, wet spring the cause. *Greene:* Is improving rapidly. *Davidson:* Unusually small, but is growing rapidly. *Davie:* Too much rain in June.

SOUTH CAROLINA.—*Chesterfield:* On upland good, on low land not good. *Fairfield:* Not so well grown as at this time last year. *Darlington:* Entirely too much rain. *Laurens:* Splendid. *Williamsburg:* A disposition to plant more oats and less corn is noticeable. *Clarendon:* Where well worked is promising. *Union:* In some sections is late and small. *Lexington:* Promising, but needs rain. *Georgetown:* May cold stunted it.

GEORGIA.—*Baker:* Very promising. *Montgomery:* Backward, owing to cold spring. *Banks:* Very uneven, due to much replanting. *Sumter:* Early spring too cold, June very favorable, prospects hopeful, farmers in good spirits and full of energy. *Chatham:* Season is very favorable. *Chattahoochee:* Small, but good color and thrifty. *Dooly:* A very flattering prospect. *Gwinnett:* Promising. *Murray:* Very encouraging prospect. *Warren:* Neglected and grassy. *Bibb:* Injured by drought and by the wire-worm. *Bullock:* Needs rain. *Butts:* Doing well. *Coweta:* Very much in need of rain. *Gordon:* No rain for three weeks. *Henry:* Too dry for corn. *Paulding:* Decreased acreage and not very promising. *Wilkes:* At planting time too much rain; afterwards not enough. *Wilkinson:* Needing rain, cannot make full crop. *Emanuel:* First planting is made, and is fine. *Gilmer:* Owing to cold spring was difficult to get a good stand. *Lincoln:* Has been improved by late rains, but is grassy. *Carroll:* Very backward. *Crawford:* Late and dry weather checked its growth; needs rain now. *Pulaski:* Very promising, but begins to need rain. *Stewart:* Has been well cultivated and is promising. *Wilcox:* Stand is poor. *Catoosa:* Backward, and poor stand on low lands. *Jasper:* Have had fine rains recently, but will need more to secure the crop.

FLORIDA.—*Baker:* If present heavy rains continue much longer will injure the crop. *Bradford:* Best crop for several years. *Leon:* Has not been well cultivated. *Hernando:* Injured by too much rain. *Marion:* June rains improved corn. *Taylor:* Injured by drought. *Suwannee:* Fine promise.

ALABAMA.—*Cleburne:* Bad stand caused by bud-worm. *Baldwin:* There has been too much rain. *Marshall:* Wet weather has prevented proper cultivation. *Barbour:* Small, and much grass in it. *Dallas:* Fine. *DeKalb:* Clean and growing. *Lee:* A little backward from late spring. *Macon:* Very foul; too much rain. *Marengo:* Best prospects I have ever seen at this time of year. *Jackson:* Much of the crop is late; rain is needed very much in some localities. *Conecuh:* Small, but doing well. *Wilcox:* Nearly out of danger from dry weather. *Talladega:* Has not recovered from drought. *Lauderdale:* So much of last years crop on hand and no demand for it, caused the decrease in acreage. *Hale:* Heavy rain 1st June injured the crop. *Coosa:* Late but thrifty. *Blount:* Rain is needed. *Tallapoosa:* Unusually promising. *Bullock:* Greatly injured by too much rain. *Fayette:* Too much rain up to 15th June, none since, not well worked, and is suffering very much from drought. *Russell:* Good season through June; is promising. *Sumter:* Wonderful improvement from recent rains. *Coffee:* Rained almost continually during June and ruined corn on the best low lands.

MISSISSIPPI.—*Wayne:* Has suffered from too much rain. *Greene:* Prospects for a crop are good. *Clay:* Surprisingly fine prospects. *Amite:* Slight damage from wet weather, but good prospect. *Scott:* Well worked and looking well. *Clinton:* Very flattering prospect. *Copiah:* Very promising. *Oktibbeha:* The yield is bound to be very large. *Panola:* Better than usual.

LOUISIANA.—*Franklin:* Stand imperfect; grassy. *Livingston:* In backward condition; too much rain. *Saint Helena:* Much injured by rains on low lands. *Webster:* Seasonable weather, with more attention to the crop and better cultivation, accounts for high condition. *Pointe Coupée:* Owing to inundation, little corn was planted last year; hence the great increase this year. *Saint Charles:* Injured by rain. *Saint Tammany:* Too much rain; is grassy. *Sabine:* Fine prospect. *Natchitoches:* Very fine. *Grant:* If rains continue, yield will be largest ever made in the county. *Saint Mary:*

Constant rains all through June; very grassy. *West Feliciana:* The best crop for years, but is grassy. *Assumption:* Injured by excessive rains. *Morehouse:* Good condition; one more rain will make a heavy crop. *Catahoula*; Good crop; is now nearly hard. *De Soto:* Some sections of the county need one more rain to secure good crop.

TEXAS.—*Panola:* Best prospect for years. *Austin:* Very favorable season; has improved rapidly. *Robertson:* As good as we could ask. *Fayette:* No rain since March except light local showers; it is now too late to do early crop any good; can do late very little good. *Kerr:* Cut short by drought, *Lamar:* There is so much rain that it could not be well cultivated. *Lavaca:* No general rain since 24th of March, which accounts for low condition. *Palo Pinto:* Unusually fine, but it is feared that late planted may suffer from drought, which is now threatening. *Brazoria:* Have just had good rains, which puts new face on crops. *Caldwell:* Drought continues; no rain in three months. *Cooke:* Best prospect we ever had; needs one more rain. *Karnes:* Drought still continues. *Lee:* Has been seasonable; the crop is made. *Stephens:* Is at critical period; is liable to be killed by hot winds. *Callahan:* Increased acreage; very favorable prospect. *Rockwall:* The yield will be immense with one more rain. *Collin:* One or two more rains and the crop will be large. *Henderson:* Have had fine season, and corn never looked better. *Johnson:* A fine prospect. *Navarro:* A six weeks' drought in May and June injured it. *Somervell:* Cut short by drought. *Wise:* Will make fine crop if rain comes soon. *Coleman:* May be considered made without any more rain, and is a fine crop. *Grayson:* A good season for corn. *Parker:* Looks well; one more rain will make it. *Van Zandt:* Large increase in acreage; needs rain. *Coryell:* Fine prospect. *Jackson:* We are having a drought, which has ruined late corn and cut short early. *Trinity:* Extra fine. *Lampasas:* Very good. *Waller:* Is suffering from very hot weather. *Rusk:* Begins to need rain. *Gregg:* It is all we could wish. *Morris:* Is needing rain. *Kinney:* No rain for two months. *Bell:* Needs rain. *Bexar:* The crop is made. *Comanche:* Needing rain badly; late corn injured. *Dallas:* Fine, but rather late; is now needing rain. *Denton:* One more rain and the crop is secure. *Harrison:* Fine prospect; one more rain in ten days will insure the largest crop in twenty years. *San Saba:* Just now in roasting ears, and needing rain badly. *Tarrant:* The chinch-bug is on the corn. *Travis:* No rain since 4th of May; only farmers who broke their land in fall and winter and cultivated thoroughly have good crops. *Colorado:* Partial showers cause crop to be very spotted. *Victoria:* Badly damaged by drought. *Walker:* Have just had a fine rain, which secures a crop of corn. *Chambers:* Better stand and better cultivated than usual; the crop is secure.

ARKANSAS.—*Drew:* Prospects were never better. *Union:* Very promising. *Logan:* Is promising, though injured by drought. *Sharp:* Backward, and farmers behind hand working it. *Hempstead:* Unless rain comes very soon the crop will be ruined. *Crawford:* Backward, but promising. *Howard:* Needs rain. *Columbia:* Is promising, but begins to need rain. *Calhoun:* Outlook is promising. *Fulton:* Growing rapidly; in bad condition to stand drought, which is threatened. *Nevada:* Needs rain; if it does not come in 10 days the crop will be short. *Pope:* If dry weather continues one week longer will do serious injury.

TENNESSEE.—*Dyer:* Seriously injured on low lands by continued rains. *Henderson:* Early planted is good. *Robertson:* Very backward; was neglected during harvest. *Tipton:* Almost impossible to give it proper cultivation from excess of rain; usual acreage not planted for same reason. *Grainger:* Had difficulty in getting stand, owing to wet and cold; is small and backward. *Humphreys:* Late, and much damaged by grub-worm. *Blount:* Very poor stand; much has been replanted three times. *Bedford:* Bad stand, and injured by heavy and continued rains. *Clay:* There has been too much rain. *Carter:* There is too much rain; is getting foul. *Claiborne:* Good condition; plenty of rain. *Decatur:* There has been too much rain. *Johnson:* Fine weather for growing corn. *Polk:* Late and backward spring; too cold. *Smith:*

Late and small; excessive rains have made corn weedy. *Unicoi:* Weather fine; growing rapidly. *Shelby:* Excellent. *Rutherford:* Very backward. *Lawrence:* Improving rapidly. *Washington:* Is growing finely under influence of warm, showery weather. *Sevier:* Rather grassy, caused by neglect in harvesting wheat. *Greene:* Much of it replanted.

WEST VIRGINIA.—*Wetzel:* Backward. *Tyler:* Too wet for corn. *Randolph:* Late and short, but good stand. *Doddridge:* Greatly damaged by cold rains. *Wayne:* Backward from unusually wet weather. *Raleigh:* Better than last year. *Berkeley:* Generally backward. *Roane:* Looks well. *Preston:* Not a full crop owing to wet weather. *Monongalia:* Looks well and promises average crop, but backward from cold and wet. *Greenbrier:* Small, but stands well and full crop promised. *Jackson:* Best prospect for years. *Fayette:* Bids fair to be a good crop. *Monroe:* Full average.

KENTUCKY.—*Cumberland:* Sorry stand, owing to wire worm and excessive rains. *Jessamine:* Looks well. *Knox:* Late and small from excessive wet. *Laurel:* Damaged by excessive wet. *Logan:* Grassy from excessive wet. *Nicholas:* Increased acreage; not cultivated enough, but looks well. *Rowan:* Late planted owing to wet spring. *Edmonson:* Hurt by rain. *Garrard:* Damaged by excessive wet. *Kenton:* Late, but growing well. *Lawrence:* Unusually small, but growing well. *Owen:* Affected by cool late spring. *Calloway:* Very backward. *Carroll:* Backward, but growing fast. *Grant:* Rank, but full of weeds and grass owing to excessive wet. *Muhlenburg:* Growing well. *McLean:* Two weeks late, but owing to decreased area has had better cultivation than usual and looks healthy and is growing fast. *Nelson:* Not properly cultivated owing to excessive wet. *Metcalf:* Overrun with weeds and grass. *Montgomery:* Injured by excessive wet. *Ohio:* Low, but good crop promised. *Greenup:* Very backward from cool wet spring and prospect poor. *Marshall:* Backward and weedy, but good color. *Owsley:* Very backward from excessively wet weather. *Shelby:* Low for the season, but good color and stand. *Scott:* Backward and weedy. *Washington:* Weedy. *Woodford:* Late, but fine. *Lincoln:* Good. *Groves:* Late, but growing well now. *Grayson:* Late, but good. *Fayette:* Good stand and promises well. *Butler:* Looks well, but not well cultivated owing to wet weather. *Anderson:* Not cultivated owing to extensive rains, but fully up to average. *Allen:* Good. *Madison:* Generally good, but backward from wet.

OHIO.—*Huron:* Late, but growing well. *Meigs:* Late, but fair stand. *Portage:* Much planted since last report, and doing well. *Clark:* Growing well with good stand, but backward from wet and grass. *Darke:* Looks well. *Hocking:* Fine prospect. *Washington:* Poor stand and very backward. *Williams:* Very backward from wet. *Allen:* Much not tended. *Ross:* Doing well. *Athens:* Backward and weak from cold, wet, and poor seed; much replanting. *Auglaise:* Poor stand from cold and wet and poor seed. *Ashland:* Below average from cold and wet. *Preble:* Greatly damaged by cold and wet and neglect. *Vinton:* Poor prospect for a good crop unless weather improves. *Wood:* Too wet for good growth. *Adams:* Small but good stand and growing fast. *Gallia:* Late, but doing well and promises good crops. *Hardin:* Fields overrun with weeds and work prevented by excessive wet. *Jackson:* Backward from excessive wet and cool weather. *Morrow:* Much replanted owing to cold, wet, poor seed, and weeds. *Mahoning:* Many fields not worked owing to wet weather. *Montgomery:* Backward from wet. *Lawrence:* Decreased area, owing to excessive wet. *Logan:* Poorer than ever known, owing to excessive wet. *Lorain:* Suffered from rain. *Greene:* Weedy from excessive wet. *Van Wert:* Poor from excessive rains. *Shelby:* Poor from bad season. *Seneca:* Ground too wet to replant corn or cultivate it; looks well, but small. *Noble:* Late, but doing well. *Highland:* Too wet for corn. *Delaware:* Backward. *Wayne:* Promises well, but backward. *Union:* Backward. *Scioto:* Two weeks late. *Paulding:* Poor prospect, owing to poor seed, and cold, wet weather. *Muskingum:* Improving very much. *Medina:* Decreased acreage, owing to excessive wet. *Lucas:* Very wet, and corn weedy and backward. *Geauga:* Good

growth, but backward because of wet weather. *Crawford:* Very backward from poor seed and very wet weather. *Clinton:* Damaged badly by late heavy rains. *Ashtabula:* Backward from very wet weather. *Wyandot:* Late and very weedy. *Tuscarawas:* Backward from wet and cold. *Holmes:* Small, but of good color and fast growth. *Harrison:* Wet weather prevents proper cultivation. *Guernsey:* Doing well; never so large acreage and never a better prospect. *Coshocton:* Doing well. *Carroll:* Late and short from cold and wet.

MICHIGAN.—*Saint Joseph:* Poor stand from poor seed, and cold and wet *Mason:* Very poor, and some plowed up, owing to cold, backward spring. *Ottawa:* Hurt considerably by wet. *Cass:* Late, but good stand. *Van Buren:* Greatly damaged by excessively wet weather. *Leelenaw:* Backward from late, cold spring. *Kent:* Poor, from wet. *Macomb:* Backward, from cold and wet. *Gratiot:* Improved by recent good weather. *Ingham:* Reduction in acreage due to excessive rains. *Eaton:* Very much damaged by excessive wet. *Allegan:* Acreage increased by plowing up ruined wheat and planting to corn, but is now backward from cold, wet weather. *Oceana:* Season very unfavorable. *Kalamazoo.* Fields green with weeds, and too wet for cultivation. *Calhoun:* Injured by excessive rains. *Oakland:* Backward from heavy rains; only three-fourths planted. *Branch:* Poor stand from poor seed and very wet weather. *Washtenaw:* Small and weedy from too much wet. *Muskegan:* Backward from wet and cold weather. *Saint Clair:* Not cultivated owing to excessive wet. *Shiawassee:* Owing to extremely wet weather one-fourth less acreage planted than would have been under a more favorable circumstance; much of it not yet cultivated the first time. *Lapeer:* Decreased area from very wet weather. *Bay:* Very little cultivated owing to very wet weather. *Osceola:* Looking well. *Crawford:* Was slow, but now doing well. *Hillsdale:* Damaged materially by excessive rains. *Kalkaska:* Looks small from wet. *Newango:* Poor prospect owing to excessively wet weather. *Lewanee:* Growing very fast on undrained land.

INDIANA.—*Floyd:* Looks well and 10 per cent. increase in acreage. *Howard:* Poor stand from poor seed and cold wet weather; most of it plowed the second time. *Monroe:* Growing well but rather thin. *Scott:* Very favorable. *Putnam:* Much replanted, but growing well. *Fayette:* Have had a good stand, but now having too much rain. *Orange:* Generally good. *Ripley:* Doing well. *Wayne:* Growing fast, but weedy. *Shelby:* Backward, but good stand. *Vermillion:* Doing well. *Fulton:* Very backward from wet and cool weather. *Brown:* Good crop promised. *Steuben:* Very backward from continued rains. *Jay:* Poor from excessive wet, cold, and poor seed. *Blackford:* Very backward from excessive rains. *Whitley:* Very backward from excessive wet; looks fair but small; poorly worked. *Bartholomew:* Fine. *Decatur:* Good. *Hancock:* Looks well, but weedy from continued wet. *Delaware:* Very backward from excessive wet and weedy. *Wells:* Very weedy and backward from excessive wet. *De Kalb:* Could not be cultivated owing to excessive rains. *Boone:* Ten days late, but looks well. *Pike:* On upland is rather small, but looking fine on low lands. *Allen:* Acreage and condition reduced by continued cold rains. *Wabash:* Very many poor fields. *Warren:* Growing finely, but very weedy. *Montgomery:* Growing nicely, but weather bad for cultivation. *Dubois:* Good color, but small. *White:* Fairly good crop, but backward and damaged somewhat by extremely wet weather. *Sullivan:* Clear and in good order, but backward from extremely wet season; increased area owing to part failure of wheat. *Parke:* Ten days late, but doing well. *Ohio:* Backward, but tand and color good. *Lake:* Backward from excessive moisture. *Lagrange:* Very backward from excessive wet. *Jennings:* Late, but looks well. *Jefferson:* Good on dry rolling land, but poor on undrained land, owing to too much rain. *Madison:* Generally replanted; well advanced, but not properly cultivated owing to wet weather. *Hamilton:* Growing finely. *Harrison:* Backward, but growing fast. *Marion:* Backward, but fair stand; wet preventing cultivation. *Spencer:* Finest stand ever seen. *Franklin:* Poor stand; growing well now. *Union:* Backward from too much rain.

ILLINOIS.—*Sangamon:* Backward from excessive rains, but improved greatly.

Brown: Was very backward, but greatly improved recently, and outlook good. *Moultrie:* Backward from cold and wet. *Livingston:* Very backward from wet and cold. *Johnson:* Could not be cultivated up to June 20 owing to excessive rains. *Pike:* Small and much of it weedy and yellow. *McDonough:* Hurt by frost, but improving. *Stephenson:* Doing well, though small. *Alexander:* Much drowned out by overflow of Mississippi River, and will not be half a crop. *Cumberland:* Excessive rains have injured corn at least 10 per cent. *Madison:* Suffering from "harvest worm" and excessive wet; increased area owing to failure of wheat. *Cook:* Poor from cold and wet. *Shelby:* Sixteen per cent. of area abandoned, owing to excessive rains. *Stark:* Doing well. *Will:* Very poor. *Williamson:* Late and generally weedy. *Edgar:* Small and some very weedy, but growing very fast. *Kendall:* Light stand and small for season; much was replanted. *Pope:* Healthy, but late from excessive wet. *Woodford:* Backward and bad from excessive rains; some planted third time. *Jackson:* Backward, but looks well. *Livingston:* Backward from unfavorable weather. *Saint Clair:* Small; too wet. *Morgan:* Poor from poor seed, late season, wet and frost on 21st of May. *Henderson:* Very backward; some replanted third time. *Macoupin:* Injured by cool, wet weather. *Mason:* Increased area: much drowned out on low lands. *Winnebago:* Looks well, but late, from cold, wet spring. *Fulton:* Damaged by heavy rains; poor seed. *Jersey:* Some planted the third time: much destroyed by floods on low lands. *Ogle:* Small, but doing well now. *Lee:* Late and weedy from too much rain. *Warren:* Excessive rain retarded cultivation, and fields are weedy. *Jo Daviess:* Better than expected from a cold, wet spring and poor seed. *Montgomery:* Acreage largely increased because of part failure of wheat; favorable weather for a splendid crop. *La Salle:* Poor stand and prospect, owing to poor seed and wet and cold. *Henry:* Small, but growing very fast. *Fayette:* Looks well except on low, flat land; weather too wet. *De Kalb:* Very greatly improved in June, and now of excellent stand. *Clark:* Damaged somewhat by grub-worm; generally free from weeds and looks well. *Ford:* Very wet; some fields have not been plowed yet. *Coles:* Small, but good. *Wabash:* Too much rain made the corn on low and prairie land weedy and poor. *Carroll:* Fair stand; backward and very weedy from wet weather. *Grundy:* Thin and weedy. *Schuyler:* Excellent stand and free from weeds. *Tazewell:* Growing very fast and fine color. *McLean:* Growing finely.

Wisconsin.—*Monroe:* Growing fast. *Green:* Improved very much. *Calumet:* Ten days late. *Waupaca:* Two weeks late; one-half had to be replanted owing to wet season. *Waushara:* Very backward, but good. *Crawford:* Backward, but doing well. *Rock:* Very unpromising, from wet, cold, spring. *Waukesha:* Backward from cold and wet and poor seed. *Chippewa:* Would have been more planted but for poor seed. *Dodge:* Much rotted in ground and plowed up, and replaced by other crops. *Vernon:* Small and backward, but growing well. *Columbia:* Very weedy and difficult to cultivate, owing to excessive rains. *Green Lake:* Damaged by bad seed and cold, wet weather. *Polk:* Late, but doing well. *Racine:* Improved wonderfully. *Walworth:* Backward from cold and wet; replanting general, and stand poorer than usual. *Fond du Lac:* Damaged by grub worm and wet. *Richland:* Doubled its size in past nine days. *Pierce:* Much rotted and plowed up, and land sown to buckwheat. *Dunn:* Backward, but doing well. *Jefferson:* Backward and light from defective seed and heavy rains.

Minnesota. *Olmsted:* Very weedy from wet weather. *Stearns:* Some fields good and some backward, and some replanted. *Crow Wing:* Damaged by cut worm: whole fields have been cut off by them. *Kanabec:* Very late. *Renville:* Ten per cent. increase in area, but some not yet up owing to wet weather. *Carver:* Very backward from cold and wet weather, but improving. *Pipe Stone:* Poor, from cold, wet spring. *Lac-qui-parle:* Improving. *Waseca:* Very backward, but improving. *Dodge:* Backward from cold and wet spring. *Wadena:* Backward, but coming on fast. *Houston:* Growing very fast. *Fillmore:* Small and poor stand. *Benton:* Backward, and poor prospect. *Ramsey:* Backward from bad weather; plants smallest in 30 years. *Nicollet:*

Hoe-planted looks well, and hand-planted looks poorly. *Dakota:* Late and backward; much replanted. *Yellow Medicine:* Very backward. *Wright:* Small; large area planted the second time. *Winona:* Poor stand from poor seed. *Stevens:* Very backward. *Scott:* Very backward from poor seed. *Morrison:* Planted late, because of backward season, and is poor. *McLeod:* Growing fast where cultivated. *Nobles:* Has made remarkable progress in past ten days, and would have full crop but for poor seed. *Todd:* Increased acreage; healthy but backward. *Rice:* Great deal replanted. *Jackson:* Weedy. *Redwood:* Greatly improved by recent good weather; better stand than last year.

IOWA.—*Toma:* Backward from wet, cool weather, but growing finely at present. *Winneshiek:* Good stand. *Buchanan:* Exceptionably vigorous. *Greene:* Improved materially in June. *Palo Alto:* Better than last year at this time. *Page:* Will be very short from excessive rains. *Ringgold:* Not so much put in owing to continued wet weather; condition very bad; poor stand and no cultivation. *Polk:* Failure on low wet lands. *Montgomery:* Decreased acreage caused by too much water; seed rotting and overflow; good stand. *Marion:* Very backward and uncultivated, owing to excessive rains. *Lyon:* Improved by warm weather. *Linn:* Failed and much replanted, owing to cool season. *Keokuk:* Poor stand from excessive wet and poor seed. *Johnson:* Was poor but now growing well. *Henry:* A full crop impossible, owing to excessive rains. *Hardin:* Poor on low ground but now growing finely. *Iowa:* Large area and good crop promised. *Lee:* Very backward from cool and unfavorable season much replanting. *Lucas:* Looks well but is weedy. *Ida:* Backward and poor stand. *Monroe:* Damaged very much by excessive rains. *Howard:* Very backward from excessive rains. *Cedar:* Small, but looking well. *Adams:* Booming on good dry land but drowned out on low land. *Mitchell:* Poor stand from poor seed; acreage increased. *Wayne:* Poorest prospects ever known, owing to cold and wet spring; weather now good and prospect improving. *Des Moines:* Fully one-half will make nothing, owing to excessively wet weather. *Crawford:* Backward from excessive wet, but improving under good weather now. *Cherokee:* Backward from excessive rains and much replanted, but doing well at present. *Clark:* Doing well. *Chickasaw:* Too cold for corn. *Cerro Gordo:* Backward and thin from poor seed, but improving. *Appanoose:* Hundreds of acres abandoned, owing to excessive rains and poor seed. *Worth:* Growing very fast. *Mahaska:* Portion of crop lost for want of cultivation owing to extremely wet weather. *Monona:* Suffered from continued rains. *Calhoun:* Backward from excessively wet season; on low ground will scarcely make anything. *Humboldt:* Wonderful improvement in past two weeks; cause: warm, dry weather. *Benton:* Increased area due to decrease in flax. *Bremer:* Growing finely. *Allamakee:* Much replanting owing to poor seed and weather; growing well now. *Plymouth:* Very backward but improving fast. *Pottawattamie:* Poor stand from wet. *Jones:* Two weeks late from cold, wet season. *Jefferson:* Almost ruined by excessive rains in May and June; cannot make over a half crop. *Fremont:* Many fields on low lands abandoned owing to recent heavy floods.

MISSOURI.—*Jefferson:* Suffered from cool weather. *Lincoln:* Very backward in places, from excessive rains. *Madison:* Backward, but looks promising. *Douglas:* Damaged by excessive wet. *Newton:* Healthy, but backward from excessive wet and cold spring. *Dunklin:* Very backward from excessive rains. *Crawford:* Injured by excessive wet. *Cass:* Good, but backward. *Barton:* Good stand. *Daviess:* Hundreds of acres washed away; half the balance not plowed yet. *Atchison:* Thirty per cent. drowned out. *Audrain:* Very backward from excessive wet; growing well now. *Moniteau:* Small, but thriving. *Greene:* Acreage large, owing to wheat being plowed up and land planted to corn. *Caldwell:* Has not been all plowed over yet owing to excessive rains; drowned out on low lands. *Osage:* On low land destroyed by June freshet. *Livingston:* Backward from excessive rains. *Scotland:* Large area, but cannot raise a half crop. *Camden:* Damaged by overflow, but never looked more promising. *Wayne:* Small from frost and excessive rains. *Holt:* Very much damaged by overflows. *New Madrid:* One-sixth of the crop drowned out by floods of rain. *Saint Louis:*

Looks well, but is very late. *Worth:* Damaged by excessive rains and many weeds. *Monroe:* Seriously hurt by excessive rains; some fields on flat lands abandoned, others, if cultivated, cannot make a half crop. *Randolph:* Very backward from excessive wet. *Ripley:* Greatly damaged by excessive rains in low lands. *Linn:* Very backward from excessive wet. *Mercer:* Badly damaged by poor seed and six weeks of rainy weather. *Cape Girardeau:* Bad, owing to continued wet season. *Dallas:* Good stand. *Johnson:* Failure on bottom lands from too much rain; grassy and weedy. *Saint Francis:* Small and weedy. *Dent:* Very small from late planting and frost, but growing fast. *Macon:* Late, but better than last year. *Pemiscot:* Increased area, owing to failure in cotton. *Grundy:* A great deal drowned out. *Platte:* Long and continued drought followed by heavy and constant rains has cut corn off one-half.

KANSAS.—*Atchison:* Very backward from excessive rains, but improving fast under recent good season. *Harvey:* Well worked and growing finely. *Johnson:* Backward from continued wet weather but where worked is growing very fast. *Marion:* Late but looks well. *Rawlins:* Small but looks well, but needs rain. *Washington:* Brightest prospect for years. *Coffey:* Replanted and good: *Anderson:* Growing finely. *Montgomery:* Never looked more promising. *Stafford:* Looks splendid but needs rain. *Ottawa:* Backward from cold, wet weather. *Pottawatomie:* Backward from wet weather. *Harper:* Excellent stand and very clean but a little backward from late spring. *Phillips:* Not so much planted as usual but looks well. *Allen:* Making a splendid growth and good crop promised. *Brown:* Small and poorly cultivated, owing to excessive rains. *Butler:* All gone over the second time. *Greenwood:* Good. *Sumner:* Never looked better. *Jackson:* Backward from cold and wet spring, but improving fast.

NEBRASKA.—*Richardson:* Late from cold spring and bad seed. *Platte:* Backward from poor seed, heavy rains and gophers, but improved very much by recent fine weather. *Knox:* Poor stand generally, owing to cold rains and poor seed; but improved considerably by good weather in the past week. *Saunders:* Growing very fast, but late. *Boone:* Fast catching up for lost time owing to good weather. *Otoe:* Overgrown with weeds; good weather now, and cultivation progressing favorably. *Polk:* Very late from cold and wet, and hurt by wire worm. *Gosper:* Backward, but a good stand. *Douglas:* Somewhat weedy, but being well cultivated. *Dakota:* Hundreds of acres replanted, owing to excessive rains. *Howard:* Growing fast. *Antelope:* Three weeks late, owing to wet season. *Dawson:* Backward, but growing finely now. *Adams:* Backward from rain, but good color and promises good crop.

OREGON.—*Douglas:* Not more than one-half germinated, owing to drought. *Yam Hill:* Short because of late cold rains.

COLORADO.—*Sumner:* Cut short by late frosts. *Fremont:* Growing rapidly.

DAKOTA.—*Grant:* Poorest prospect ever known. *Lincoln:* Nearly a failure from excessive wet. *Hamlin:* Poor prospect owing to poor seed. *Morton:* Mostly all rotted in ground; late planting good. *Hutchinson:* Very poor stand; but greatly improving. *Bon Homme:* Fine season for corn. *Lake:* Good stand but backward. *Yankton:* Good season; very backward and much of first planting failed. *Spink:* Much dug up by gophers. *Aurora:* Large area; light stand but improving. *Hanson:* Poor from wet weather.

NEW MEXICO.—*Santa Fé:* Not very promising, owing to continued drought. *Grant.* Low stand due to poor seed.

WHEAT.

Winter wheat has been harvested in the South, and the harvest is now in progress in the central zone, and will be completed during the month in the northern.

The outcome will not differ much from the expectation in April, though somewhat larger than was indicated in the June report, finer

weather having developed the promise in some sections and dispelled in slight degree the previous forbodings of failure. Yet the improvement is not very marked, and assurance is made very positively sure that there will be a shortage of eighty to ninety million bushels in the winter wheat crop, and a probable deficiency of seventy to eighty million bushels in the aggregate wheat product of the year. As there will be a surplus left over on the 1st of August greater by forty million bushels than the small surplus of the previous year, there will be an ample supply for home consumption and an average exportation, though prices must be high, and in event of a temporary stoppage in the movement of competing grain toward European markets still higher than heretofore.

Reference to the table of averages will show that the improvement of the past month has been mainly in Connecticut, New York, Virginia, South Carolina, Texas, Ohio, Michigan, Indiana, Illinois, Missouri, Kansas, and California. The general average of condition is advanced from 75 to 79.

SPRING WHEAT.

The spring wheat prospect is even better than in July of last year. The general average is 100 against 98 for last July, and indicates a crop of about one hundred and twenty-five million bushels. The State averages are: Wisconsin, 100; Minnesota, 97; Iowa, 100; Nebraska, 104; Dakota, 103. It is equally high in Northern New England and Northern New York.

In parts of Minnesota the crop is needing rain, and in sections of abundant moisture weeds are vigorous and threatening to smother the wheat; but weeds are more efficient for evil in the Northwest in any year than all other causes of injury combined. There is infinitely more loss from weeds than from grasshoppers.

THE PROSPECTIVE SUPPLY.

The distribution of the crop of 1882, which was estimated at 504,185,470 bushels, shows a home consumption of 246,879,930 bushels—for seeding, 51,425,212 bushels—leaving a net surplus of 205,880,328 bushels, from which are made exports which will require about 153,000,000 bushels.* This makes last year's crop 47,000,000 in excess of requirements. The distribution is thus presented:

Group of States.	Production.	Consumption.		Surplus.	Deficiency.
		For bread.	For seed.		
New England	1,103,020	19,144,660	119,520		18,161,160
Middle	35,745,200	51,177,141	3,770,850		19,202,791
South Atlantic and Gulf	40,556,550	55,834,024	5,323,416		20,600,890
Kentucky and Tennessee	27,221,200	15,416,955	3,056,400	8,747,845	
Central Western	243,792,100	73,673,175	22,886,875	147,232,050	
Lake	88,491,300	20,330,110	9,213,000	58,948,190	
Pacific and Territories	67,276,100	11,303,865	7,055,151	48,917,084	
Totals	504,185,470	246,879,930	51,425,212	263,845,169	57,964,841

*Estimated from nearly complete official figures for the fiscal year.

On the same basis the distribution of the five preceding years made the following averages:

	Bushels.
Used for food per annum	233, 139, 786
Used for seed per annum	50, 800, 065
Exported as wheat and flour	145, 274, 678
Total distribution	429, 214, 529

The estimates of production, with a few millions reduction of the usual surplus to eke out the failure of 1881, cover this amount.

BARLEY.

The condition of barley is represented by 97; last July, 96. The average in New York is 103; in Pennsylvania, 91; Wisconsin, 102; California, 90.

POTATOES.

There has been an increase of about 5 per cent. in the area planted in Northern potatoes. They are reported in high condition, averaging 101.

TOBACCO.

The area of tobacco appears to have been diminished 7 per cent. Condition, 95.

COTTON.

The July returns indicate an improvement in the condition of cotton. Rains were general up to the 15th or 20th of June, and local showers have been frequent since. There has been an excess of moisture, interfering with cultivation and promoting the growth of grass. Clean fields are found only in favored districts and on lands of prompt and pushing cultivators.

Since June 20 growth has been rapid. In grassy districts the plants are still small but healthy, and making great progress with recent cultivation.

The only complaint of drought comes from Central and Southwestern Texas, from the Colorado to the Guadalupe. A few counties in South Carolina and Georgia report a present need of rain.

Recent distribution of moisture has been quite unequal. Adams County, Mississippi, has had showers daily for five weeks, and Pike County for six to eight weeks.

The general average of condition has advanced from 86 to 90. Last July there was an improvement of three points, from 89 to 92. Returns of July, since 1870, have indicated higher condition than in June, except in 1871, 1873, and 1879. The spring weather was too variable in temperature and moisture, as it usually has been in former years, for the highest condition of the plant. The only retrograde is reported for

Arkansas, where a loss of three points is made, from excessive rain, cool nights, and injuries from chinch-bugs, red ants, and rust. There is a promise of improvement during July.

A gain of ten points has been made in the northern zone, North Carolina and Tennessee, seven in Georgia, six in South Carolina, four in Texas, three in Mississippi, two in Virginia, and one in Florida. Alabama and Louisiana stand as in June.

The July State averages are as follows: Virginia, 83; North Carolina, 91; South Carolina, 91; Georgia, 93; Florida, 95; Alabama, 87; Mississippi, 89; Louisiana, 91; Texas, 93; Arkansas, 84; Tennessee, 88.

Worms have wrought little injury as yet. The caterpillar has appeared at a few points from South Carolina to Texas. In Butler, Alabama, the second brood of worms appeared June 20. The boll-worm is at work in Denton County, Texas.

Picking will commence in Southwestern Texas about the 20th of July.

The North Carolina reports indicate a "backwardness" in the crop, due to superabundant moisture and low temperature, which the sunnier mood of later June is tending to repair. The earlier planting, in some districts, has the best appearance. The rains have stimulated the grass and prevented its eradication by the plow. In Harnett County there has already been injury by the cotton-worm. The first bloom reported in Cabarrus was observed June 30.

Rains till the middle of June, grass rampant to date, the progress of the plow interfered with by a watery soil, are the general features of South Carolina returns. There has been a little longer period of recuperation than in the Old North State, and condition is therefore a little higher, though the tenor of reports in one is substantially the prevailing tone of the other. The first bloom in Horry was reported on the 26th. Where the character of soil and the push of the planter permit the thorough and early cleaning of the crop, growth is stronger and the fields in a higher state of forwardness.

The fight with "General Green," a campaign which always lasts till July in Georgia, has been severe this year. The area in cotton is always ample for the working force in a year of moderate moisture; with frequent rains it becomes questionable whether it would be better to abandon a part of the acreage to make possible a fair yield for the remainder. Since the middle of June there has been daily progress towards clean culture, and an occasional shower would be of service in some sections.

There has been too much rain in Florida. Worms have commenced work, but are not sufficiently numerous yet to injure materially the rapidly growing plants.

In Alabama the plants are smaller than usual. The spring has been too wet and cold for the best development. Growth for two weeks has been rapid, and progress in cultivation has been made. Some districts are reasonably clean, and others discouragingly foul.

The crop in Mississippi is two weeks late, but generally vigorous and

thriving apace. Rains have been frequent, and have generally continued through the month of June. It has been difficult to keep fields clear of grass and weeds.

There was much replanting in Louisiana, and there is a poor stand on many farms, notwithstanding the effort to chop out the grass and keep it down by cultivation.

In parts of Texas there has been a deficiency of rainfall. The central and southwestern counties are suffering for want of rain. In Fayette the effects of drought are clearly visible in the fields. It has been so dry in Lamar that some seed has failed to germinate. There has been no rain for three months in Caldwell. There is injury from drought in Jackson, Kerr, and Kendall. But half a crop is expected in Llano from lack of moisture. There has been no rain in Bexar since April. In some of the eastern and northern counties there has been abundance of rain, and in some cases cotton is "in the grass" yet.

Arkansas has suffered from low temperature and excessive rainfall—more probably than any other State. The plant is small and smothered by grass in many fields. In Logan County there is complaint of chinch bugs, "sore shin," red ants, and rain in floods.

Similar conditions have prevailed in Tennessee, making the crop late, but better weather is now prevailing.

GRASSES.

The effect on grass and clover of favoring temperature and moisture is universal. The figures representing condition of timothy, while they reach 105 only in Nebraska and California, are less than 100 rarely, and descend below 95 in Oregon alone. For the United States the average is 102. Clover is equally vigorous, and pastures are well clothed. No injuries from insects are reported. The white daisy has interfered with the growth of timothy in Indiana and Kentucky, but not seriously.

FRUITS.

There is a general decline in the condition of apples since the last report. Blossoms made generous promise for an off or "odd" year, but the fruitage has shown the damaging effects of late and severe frosts. "Falling badly" is the tenor of most reports. Since the first of June the condition has gone in New York from 95 to 70; in Pennsylvania, from 98 to 75; in Ohio, from 65 to 51; in Michigan, from 93 to 70; in Illinois, from 70 to 66; in Wisconsin, from 77 to 53; in Iowa, from 74 to 64; in California, from 70 to 67. A large decline is reported in New England. In Nebraska the figures remain at 90; for Kentucky they are 72, and for Kansas 85, a gain of 2 and 5 points, respectively. The changes in the peach prospects are less marked, except in New York, where they are indicated by 50 now against 91 on the first of June. In Massachusetts a gain of three degrees places the percentage at 100. The crops of Maryland and Michigan promise fairly, the condition being

83 and 70, respectively, a loss of two points in the former and a gain of three in the latter since June first. Grapes have suffered from frosts, but no marked disaster is shown. The condition is at 90 in California and at 80 in Ohio.

CROP NOTES FROM STATE AGENTS.

CONNECTICUT.

The area of corn has increased annually for the past few years in Connecticut, and may be set down for this year at 65,000 acres. It has come up well, has met with no drawbacks, and promises now to give a good crop, considerably above the average.

In the extreme eastern part of the State the weather is reported as too dry for the growth of oats, but generally they are doing well, and there is promise of an extra crop.

The canker-worm has proved destructive to orchards in some parts of the State, so that the crop of apples must be small, considerably below an average. Pears and peaches promise well.

The acreage of tobacco is somewhat diminished, so that a fair estimate may be 10,000 acres. The weather has been favorable for setting, and the crop looks well, though the plants were late in starting.

There is an increase in the acreage of potatoes, so that we count upon 32,000 acres. The crop never looked better since the potato beetle appeared. It is now in full bloom with a healthy growth.

NEW YORK.

The differences in corn are also quite marked, as in Chautauqua County and along Lake Erie, extending inland to other counties. The season has been so wet and cold as to be unsuitable for its growth, while in the eastern portion of the State corn is better than last year on account of the rapid growth in June, and fully up to the average. On account of the extreme wetness the planting was later in some counties than usual, and the area was also reduced, which gives an average area throughout the State about 5 per cent. less, and also a condition slightly below the average.

The area of spring wheat is small in New York compared to winter wheat. Its condition is fully up to the average with an increase of area. Winter wheat in the eastern part of the State, northeastern and southern, comprising three-fourths of the area, is fully up to the average in condition with an increase of the area over last year, but in the lake regions and the counties adjoining there is great variation in the condition, and a reduction of area owing to many fields having been plowed up. The growth from the live roots has been large, as all over the State there has been abundance of rain and favorable weather to promote growth, which indicates a good yield in proportion to reported conditions.

Winter grain has tillered well on account of the favorable circumstances which have, in connection with a vigorous growth, increased the average condition.

Orchards are in healthy condition, with the conditions for fruit ranging from twenty to a full average. The prospects indicate possible crops of three-fourths, with a larger yield of peaches and pears than last year, and small fruits in great abundance.

Owing to the backwardness of the season and continued wet weather in some of the tobacco districts, the plants have not been fully set. The area is reported as not average, while the condition is also less.

DELAWARE.

Notwithstanding the repeated heavy showers during wheat harvest the crop has been successfully saved, and the great want of labor profitably supplied by the self-binding reapers—many of our farmers regarding these labor-saving implements as

an invention of as much value as the first reapers. Corn fields present a ragged appearance, owing to the ravages of the cut-worm. Still, as a rule, we have a good stand, and the season being so favorable will doubtless give us an average crop.

The very low prices of Irish potatoes in the several markets incline our growers to abandon them as a crop.

The peach crop now gives promise of a fine yield of excellent quality. In districts that grew heavy crops in the season of 1882 the product will this year be light, but upon our water courses the orchards seem in better condition, and promise largely of fine fruit.

MARYLAND.

In the present year there has been planted in this State, in round numbers, 700,000 acres in corn, and although planted unusually late, the season has been favorable to its growth, and it is looking well and healthy.

The wheat crop has been nearly all reaped, and it proves very satisfactory, although not quite equal to the crop of last year. While much was winter-killed, and lost by storms and other accidents, the spring was favorable, and it recuperated rapidly, so that the crop will be an average one.

The same statements apply to rye as to wheat.

Oats, though sown late, will yield above the average crop of last year to a small extent, though the acreage is not quite up to last year.

This year not more than 24,840 acres was planted in tobacco, a reduction of about one-third as compared with the area planted in 1879. The cut-worm proved very destructive to the early-planted crop, but the hot days in June destroyed them, and the general rains of the last week of that month enabled the replanting to be done, and at present the condition of the crop is rather better than usual.

Clover, timothy, and other grasses have been unusually good.

Pastures are flourishing, with the exception of a small portion of the State where drought has occurred.

The sweet potato crop is promising, and largely on the increase as to its former limited area.

Irish potatoes have increased in area at least 20 per cent. over former years, and the present condition is flattering. The early crop was good and very prolific.

The peach "fall" this year was later and greater than usual, which will reduce estimates made at the time of the heavy bloom. The actual product of the crop may be set down at 2,000,000 baskets. There will be less canning than last year, owing to the large stock left over in first hands. Probably not over 500,000 baskets will be canned. About 250,000 baskets will be dried or evaporated—an increase over last year. There will be sold in the markets, in and out of the State, for eating fresh, 1,000,000 baskets, and the balance of the product wasted or consumed by the producers at home.

The prospect for all other fruits and nuts is very good.

VIRGINIA.

The State agent reports 1,820,122 acres planted in corn this year, and condition promising; also 115,448 planted in tobacco, condition not very promising, and 38,400 acres in cotton, with condition only fair. He also reports the condition of winter wheat as good in the northern and western portions of the State, and medium in the middle, tidewater, and southern portions.

SOUTH CAROLINA.

A large proportion of the corn crop in this State is planted on river and creek bottoms, and experience has shown that on such lands it is less liable to destruction by bugs, and the weather being warmer, a better stand is obtained by planting later than is customary on uplands. It is sometimes planted as late as July, and often on grain stubble. It is probable that the whole area for the State was slightly increased this

year, but a good stand was not generally obtained on uplands, and on the low lands in many sections the crop has been badly injured by floods. It has therefore been necessary to replant a considerable part of the crop, and this has doubtless caused a loss of all, or nearly all, of the original increase. There is still, however, time to recover this loss on bottoms, and a slight gain may be made by replanting land in corn that had been planted in cotton. It is possible, therefore, that the area has been increased 1 per cent.

The dry, cool weather during the month of May checked the growth, and the crop has been considerably injured in some sections by the ravages of "bud-worms," but the prospects have been greatly improved during June by seasonable showers.

Wheat and oats have been harvested in fine condition. In some localities oats were caught in the field after being cut, and in such cases were damaged to a small extent.

Wheat was unusually fine, and free from rust, and the yield was not decreased more than 6 per cent. from rust. The berry was full and plump. Above an average yield per acre was obtained. The total production is probably 5 per cent. less than last year, on account of decreased acreage. Fifteen correspondents in the northern and middle counties (the wheat section of the State) say that the quality of the grain is better than last year, and nine report the quality as the same.

The usual yield of oats (none but Red Rust Proof are planted) is about eighteen bushels per acre. The yield of the present crop will probably not exceed sixteen bushels; this is due to the fact that an unusual proportion of the crop was sown in the spring.

There is an evident disposition in some sections to reduce the area in sorghum and increase the area in sugar-cane, as the experience in the past few years in the places where the latter has been grown has shown better results from it than from sorghum. The total area in both, however, has not been changed materially yet, and is doubtless about the same as last year. The condition is as good as usual.

The improvement in condition of cotton since June 1st has been very great. The crop was well worked during the month of May, and was in the best condition to receive all the benefits of the splendid showers that followed in June. The grass has also grown rapidly, and as there is a deficiency of labor in many sections the crop has not been entirely freed from the grass, and is suffering in consequence. The condition in the northern counties is reported now as fully up to an average, in the middle counties at 4 per cent. below, and in the lower counties at 8 per cent. below, making the general condition for the State 96. This is about the correct estimate.

FLORIDA.

Oranges will be increased 20 per cent. over last year, caused by the increase in the number of trees coming into bearing, by the increased size of the trees, and by favorable conditions of the climate. The interest in the cultivation of the citric fruits is yearly increasing, and while new fields are planted to trees, better care is bestowed upon the bearing and young trees, and their culture is better understood.

ALABAMA.

Since our last report the long drought of May has been followed by heavy and continuous rains, which prevail even yet in some parts of the State. These have caused an amount of grass almost unprecedented heretofore, which up to this time the most assiduous efforts have not removed. On bottom lands both corn and cotton have suffered greatly, while the latter on uplands has been injured by the removal of grass, &c. Both crops are still at least ten days late. The outlook, though not by any means discouraging, is far from being favorable, though persistent efforts, hot suns, and occasional rains may bring abundant harvests out of the present unfavorable conditions. When labor is very abundant, as it is in many of the prairie counties,

the grass, with favorable weather, can easily be removed. In the southern tier of counties, as well as in mineral counties, much of the acreage now under cultivation will have to be abandoned unless we have exceedingly propitious weather through July.

MISSISSIPPI.

Mr. A. B. Hurt, special agent, reports the acreage in corn in this State as about 8 per cent. greater than last year, and the yield will probably be largely increased. From every part of the State come favorable reports as to the corn crop.

Cotton has not entirely recovered from the backward spring and the cool weather which prevailed from the middle to the latter part of May. On an average, the crop is about two weeks late. Frequent rains of the past two weeks have done damage in some parts of the State and caused fears of an early appearance of worms, though none have been reported yet. Imperfect stands, caused by lice and cool weather, are reported from some counties. The weather the past two weeks, barring a little excess of rain in some places, has been very favorable, and consequently the plant now looks healthy and is growing vigorously.

Mr. E. G. Wall, Mississippi Commissioner of Agriculture, reports experiments with the Rieta wheat, a variety obtained from Italy and claimed to be the only kind growing on the plains of Tuscany that does not rust. Four bushels were distributed to about forty farmers, and was sown between December 23 and January 1, 1883. Reports received are very satisfactory, and it has proven thus far "rust-proof."

LOUISIANA.

The State agent for Louisiana reports 950,000 acres planted in cotton this year, with condition somewhat below the average. The area of corn as 956, 307 acres—condition, a little above an average. The area of Irish potatoes is reported as 6,700 acres, with condition nearly up to the average.

TENNESSEE.

Corn is somewhat backward, though healthy and vigorous. It will scarcely reach the yield per acre of 1882, which was the best for a quarter of a century. The yield will depend very much on the seasonableness of the future, as it is now being "laid by" and passing beyond the pale of further cultivation.

Wheat has been harvested. The acreage was somewhat less than last year, and the yield less per acre. The yield for the State will be from nine to ten million bushels.

Cotton is late two or three weeks, and on thin lands is very unpromising; the yield, however, will depend much upon the seasons and the lateness of the fall. The area is somewhat diminished from last year, but the yield per acre promises better than at this period last year.

Tobacco is backward, but with favorable seasons will make an average yield.

OHIO.

The weather has been as favorable as possible for wheat since April 15, but the damage during winter was so great and the stand in spring so thin that the total at harvest cannot probably much exceed half of a full average crop. The weather has been too wet and cold for corn, and has delayed cultivation until the weeds have greatly damaged the prospect.

Crops are unusually free from depredations of insects, and no disease among animals prevails.

MICHIGAN.

The last two months, May and June, have been uncommonly rainy and chilly. Since the 1st of May the earth has had scarcely a chance to get warm and dry. The growth of wheat and grass was rapid and heavy—rather rank in the case of the

latter—but corn and potato planting was sadly delayed, causing a general backwardness of latter crops.

At the opening of spring weather it was estimated that 13 per cent. of the wheat had been winter-killed, while the thin and spotted fields in the southern part of the State led many farmers to expect but half a crop. In Monroe, Cass, Saint Joseph, Branch, Berrien, Kalamazoo, and Genesee Counties the worst complaints were heard. But the month of June was not unfavorable for wheat, and the yield will probably not fall much more than a quarter short of last year's yield. This, of course, depends much upon the weather we have in harvest time. From Saint Joseph, Lenawee, Branch, and Eaton Counties come complaints that wheat has been badly "lodged" by heavy rains, high winds, and thunder storms, but the damage has not been great enough to affect the crop generally throughout the State. The probable yield has been estimated at 22,000,000 bushels. The average acreage was sown.

The corn crop was drowned out. Planting was postponed from day to day, or accomplished piecemeal, only to have the seed rot in the ground and require replanting. About the average acreage would doubtless have been planted had the season been an average one, but many acres were not fit for planting until too late. Corn cannot be said to have got a start yet, and nothing but the most favorable combination of circumstances—a long summer, mild fall, and late frosts—can gives us a fair crop.

Rye and barley are minor crops in this State, but reports indicate the condition of both as fair.

Oats are in excellent condition and the growth has been strong. About the same acreage as of last year was sown, and its present condition is fully up to the average.

Clover, timothy, and pasture also present an unusually fine appearance so far as growth is concerned. It is heavy, and, as the correspondent from Kalamazoo County says of pasture, "above cattle's horns." The long rains have trenched somewhat upon haying time and some damage has already been done, but has not been very heavy.

Potatoes are in excellent condition, except on low and wet lands where they have been drowned out, but the proportion cannot be very great, as they are not generally planted on low pieces unless the land is well drained. The average acreage has been planted, and the yield may be considered reasonably good, both in quantity and quantity.

Sorghum is in fair condition, and returns show an increase of 11 per cent. in acreage and 12 per cent. in the number of farmers planting, as compared with last year.

Orchards are in good condition. The prospect at present is good for an excellent apple crop and fair peach crop.

The prospect for the usual yield of grapes is good. Some of the tenderer vines were injured by the severe weather of last winter, but there have been no general complaints of that or other troubles.

INDIANA.

The condition of corn is much better in the southern than in either the northern or central divisions. The increase in acreage for the State cannot be much more than 1 per cent. There is no doubt but what a much larger per cent. was prepared for planting, but the continuous rains prevented farmers from utilizing the ground thus prepared until it became too late to plant the same. The prospects at present are not any too encouraging for a yield equal to last year, as much ground had to be replanted, and the second growth is only from two to four inches in height at this time. There is no doubt but what the inferior quality of seed-corn had much to do with the backwardness of the crop.

The weather during the past three weeks has wonderfully developed the growth of the wheat. While it is thin on ground, it has headed out nicely, and many farmers who had contemplated plowing up their fields and planting them in corn are now very much encouraged.

WISCONSIN.

Reports from all but three counties in the State give an estimate of 1,075,180 acres planted in corn this year. The hot weather since June 25 has greatly improved the condition.

Winter wheat is reported as being in excellent condition all over the State.

The acreage of spring wheat is considerably decreased as compared with that of last year. Fears are entertained that if the hot weather continues it will be injured by "sun-scald," but at present the condition is good.

Poor prospect for fruit. Serious injury by the "canker-worm" is reported in many portions of the state.

The area of tobacco is estimated at 1,600 acres, with condition good.

The condition of Irish potatoes is very promising, and the area is estimated at 117,000 acres.

IOWA.

The corn crop of Iowa is still in doubt. The heavy rains continued up to the 25th of June, and thousands of acres of corn on wet lands are past saving. Much more is small and struggling with the weeds for existence. The corn on rolling and well-drained land is doing well; while it is not so early as it should be, yet it is now growing fast, and is a healthy color. The last week has been fine for corn, and if July, August, and September should be favorable, Iowa will have two-thirds, and perhaps three-fourths, of an average crop. The area is about 6,900,000 acres.

Wheat looks well and promises an average crop.

KANSAS.

The excessively wet weather during May and the fore part of June occasioned grave apprehensions in the minds of farmers concerning the corn crop. The rich bottom lands adjoining the Missouri River in the northeast, that usually produce heavy crops, have been for several weeks under water and the crops destroyed. Happily the area thus affected is such a small percentage of that of the State that the damage from the cause of floods is comparatively small. There has been but a slight rainfall during the past three weeks, and the corn that has been suffering from too much moisture, and consequently from lack of tillage, is fast recovering the lost ground. The weather for the past three weeks has been favorable, and where the damage has not been beyond repair the prospect for an average crop is as fair as in any previous year. There has been an increase over last year in the acreage planted of more than 10 per cent., or 456,508 acres. The extreme western portion of the State has decreased its area, and is rapidly and surely replacing uncertain field crops with the more profitable live stock. Cloud and Nemaha Counties, both near the northern line of the State, have the largest increase, while the southern counties have about maintained their area of one year ago. The present prospect in Kansas is that the crop will fall but little below an average. The southeastern and extreme western sections have failed to recover any portion of the damage done to the winter wheat and will not harvest a half crop. In all other portions of the State the favorable weather of May and June caused a marked improvement, and in many counties it is claimed that the yield is as heavy as it was last year. The crop has been harvested in Southern Kansas, and the central section is now being cut. The State yield will fall below that of 1882 probably three or four bushels. Within the last three days there have been rumors of damage from rust. That there is some rust in that portion of the area remaining to be harvested is certain, but what the extent of the damage will be cannot now be ascertained.

The small area of spring wheat, confined almost altogether to the northern half of the State, is in very fine condition, much better than an average. The area, however, has been reduced from year to year until but little is left, and the production affects our wheat crop but little.

With the exception of peach trees, orchards are in excellent condition. The apple crop will hardly be as large as was expected in May, the fruit in several localities falling from the trees from some unexplained cause. The orchards of Kansas are confined mostly to the eastern tier of counties, and in this section a fair fruit yield is anticipated with the exceptions before noted.

The area of Irish potatoes is estimated at 74,279 acres, an increase of about 17 per cent. over that of last year. The yield promises more than an average.

COLORADO.

Owing to the cold, wet spring, corn is somewhat backward. It was also damaged by the storm of May 29. At the present time it is growing fast and promises a good yield all over the State. The area is estimated at 39,617 acres.

The condition of spring wheat is good, save in certain sections of Weld and Larimer Counties in Northern Colorado, where a prevalence of hail-storms during the month of June destroyed about 6,000 acres of growing grain, entailing a probable loss of 100,000 bushels.

The condition of oats is fully up to the average and promises an average yield of thirty-five bushels per acre. Long and continuous spring rains have made our pasture ranges in a better condition than they have been for years.

DAKOTA.

Corn has had a hard time of it. Until the last ten days the weather has been cold and wet. It is now growing nicely. The stand is generally poor; imperfect seed and gophers are the cause. The crop cannot be a full one under any circumstances. There has been a large increase of acreage, which will more than make up the deficiency.

In South Dakota wheat was threatened with too much rain ten days ago, but the weather since has been all that could be desired. There are some uneven pieces, but enough of extra to make the average good. The wheat is now commencing to head out. In North Dakota the grain is not so forward, and from latest reports the wheat was in need of rain though not suffering, and the condition is good yet. The prospect for twenty million bushels is still sustained, but it has from now until the shock a period of great liabilities to encounter.

Potatoes, while a little backward, are growing very well, and have not been interfered with by insects. The crop gives promise of a fair yield.

Flax is largely sown in South Dakota, and looks well. Many fields that were planted to corn which failed to come up were afterward sown to flax. The early-sown is now in bloom. Flax was sown on new breaking up to the 25th of June.

There have been no chinch-bugs, grasshoppers, nor other insects reported as injuring the crops.

The month of June has been especially and extraordinarily favorable for grass. It has made splendid growth. The rainfall has been quite plentiful. The pasturage is excellent and the promise of a large yield of hay is good. Very little tame grasses are grown. What there is, passed through the winter without injury and is doing well. Farmers are inclined to seed to timothy and clover as quickly as they can spare the cultivated land.

Millet grows well, but is patronized by the farmers more in a light grass year as furnishing a large yield of hay.

WASHINGTON TERRITORY.

Our continuous dry weather through the month of May and thus far in June bids fair to injure all grain and hay crops. It is safe to say that ten days more of the weather now present will reduce the grain crops of this Territory one-third, if not one-half, the average of former years, while in the Willamette Valley of Oregon there will be almost a total failure, a thing hitherto unknown in this country. The grain

crops of this Territory are already greatly injured and shortened by the hot weather. Spring grain, which looked well in May, promising an abundant yield, is heading out in June at from 15 to 24 inches high. Fall-sown wheat was generally killed by the unusually cold winter.

MASSACHUSETTS.

The hot nights, together with the favorable days, have produced a wonderful change in Indian corn. The oldest inhabitant does not remember a more favorable June for corn; that which was planted the last day of May was larger the last day of June than it usually is at that time when planted the first week in May. The prospect now is that the crop will be very large.

Potatoes never looked better, and as a very much larger area was planted the prospect is that Massachusetts will produce more than a million bushels above an average.

The farmers of Massachusetts never had more cause for rejoicing than at the present time; both gardens and fields are full of promise.

BEET-SUGAR IN MAINE.

The following statement concerning the Maine experiment in beet-sugar manufature is made for this Department by the secretary and treasurer, Mr. Henry B. Blackwell:

We made sugar three years, viz, in the fall of 1878, 1879, and 1880. Our first year was experimental. We made 180,000 pounds of sugar in the Forest City Sugar Refinery of Portland from beets, with a very imperfect diffusion battery, without a washing machine or carbonic acid. The second year we made about 1,200,000 pounds of sugar. The third year about 1,000,000 pounds of sugar. Our total sales of sugar and sirup from beets were about $200,000 in all, one-half of which was in the second year. We averaged very nearly 7 per cent. of sugar, polarizing 92°, and 3 per cent. of sirup, from the clean washed beets. The raw sugar sold readily to Boston, New York, and Philadelphia refiners at one-fourth per cent. per pound less than the raw cane sugar of similar polarization. This difference in value was due to the percentage of potash which raw beet-sugar contains and to the unpleasant flavor. The sirup was sold for blacking and for distilling. It brought us, in hogsheads, 18 cents per gallon weighing 12 pounds, or 1½ cents per pound.

The difficulty was purely an agricultural one. We could not get the beets at a price we could afford to pay, or in quantities sufficient to give us a fair working season. This difficulty occurred each year and became greater each year. The first year we paid $4 per ton, delivered on the cars, and $5 per ton at the factory by wagons—*i. e.*, for 2,240 pounds *unwashed* beets, which, deducting dirt and evaporation, gave us a little less than 2,000 pounds of clean washed beets at the factory. The second year we paid $5 per ton on the cars and $6 delivered at the factory by wagons. The third year we paid in some cases $5.50 per ton on the cars and $6.50 at the factory by wagons. But as a rule the farmers who raised one year declined to raise them the next year, and discouraged their neighbors. We had no difficulty or controversy with them, but they did not like the business of raising them and did not find it sufficiently profitable to tempt them. About one-fourth of the farmers who contracted made no returns whatever. Those who did make returns averaged each year ten tons to the acre. In all cases we paid *cash* promptly on the delivery of beets to the weighers at the stations. The freight, added to labor, cost of canvassing, correspondence, weighing charges, &c., made the beets cost us each year successively, at the factory, $6, $6.75, and $7.50 per ton. The first year we got enough beets to keep us at work 30 days, the second year 60 days, and the third year 45 days. To make a profitable business we should have had a supply for from 100 to 120 days. The first year we came out about even, the second year we cleared $10,000, and the third year we lost $6,000. Our investment of $60,000 in machinery we still hold, and find it without a buyer. In estimat-

ing our profits and losses, however, it must be remembered that the State of Maine paid us a bounty of 1 cent per pound on all sugar made from Maine beets, not exceeding $7,000 in any one year. During the first year we received $1,875, the second and third years $7,000 each; total $15,875. But for this bounty our loss on the manufacture would have been nearly $20,000, besides wear and tear of machinery.

We abandoned the business, however, because, and *solely because*, we found that in New England the supply of beets *could not be had*. The first year we got all our beets within fifty miles of Portland by rail; the second year we went on an average one hundred miles; the third year we canvassed almost all of New England east of Vermont and north of Connecticut on lines of railroads, say from Bangor, Maine, to Sherburne, Massachusetts, and from Sherbrooke, Canada, and Lancaster and Hanover, New Hampshire, to the seaboard. No amount of effort would probably have enabled us to get 5,000 tons of beets a fourth year, even at the last year's prices, which paid a loss, possibly not at any price, for it was not merely a question of price. Farmers did not like the drudgery involved in the thinning out. They could not spare the manure, and artificial fertilizers did not answer. The average yield of beets was very uniform—about ten tons the acre each year. Our average product was also very uniform—about 7 per cent. of raw sugar, polarizing 92°, and 3 per cent. of sirup, weighing 12 pounds to the gallon. In the three years we made about $200,000 worth of sugar and sirup, more than half of which we made the second year. If the farmers in any locality, East or West, would raise 10,000 to 15,000 tons of beets annually and deliver them at the factory by wagon at $5 per ton, taking back return loads of the pulp at $1 per ton to feed their stock, they would make money, and the factory would declare 20 per cent. net dividend on a stock of $150,000. The value of the feed is greater than the same weight of beets. Every three tons of beets yield one ton of feed. This feed fed with half the usual amount of hay, at the rate of two pounds of feed for one pound of hay withheld, will add 20 per cent. to the flow of milk and will fatten beef far better than all hay. The feed, put into close bins or cisterns, will keep for a year uninjured. We could have sold ten times the amount of feed, if we had it, to farmers who had used it and found out its value.

There is no difficulty, with proper machinery and skill, in making beet sugar, but our beets were not, on an average, nearly so good as in Germany, or even in France, yet they were much better than the average beets raised in Delaware. Making beet sugar is primarily an agricultural question. In our stony soil machinery could not be used in cultivation, and the contracts did not average one acre each. In Iowa, Minnesota, Dakota, or Wisconsin I think beets could be raised on a large scale, with machinery, at a handsome profit, at $4 per ton. But a factory will only pay if it works on a scale of at least 100 tons of beets a day; we worked 125 to 150 tons per day. Such a factory cannot be erected for less than $125,000, and cannot be run without an additional cash capital of $50,000. It should be in the midst of the best fields, must have an unlimited supply of water, cheap coal, and railroad facilities. It requires one ton of coal to convert five tons of beets into sugar.

It is possible that there is a difficulty in our Eastern *climate* as well as our soil. Our summer is too hot and dry. I incline to think that Oregon and California are the best localities for beet sugar, and that sorghum cane is profitable for the Eastern and middle States. There is an analogy between the Eastern and Western climates of the two continents. New England resembles Northern China; Oregon resembles Europe. From the experiments of the United States Department, confirmed by my own experience in sorghum, I am convinced (contrary to my former opinion) that *sorghum sugar* is destined to become a great national industry unless there is a sudden and entire change in our system of sugar duties within two or three years.

BERMUDA GRASS FOR HAY.

Bermuda grass (*Cynodon dactylon*) is supposed to be originally derived from India or Eastern Asia, but has long been spread all over the warmer

regions of the globe, and is everywhere among civilized people esteemed a valuable forage grass. It has been regarded as a great pest by cotton-planters from the extreme difficulty of its eradication. There are others who begin to find a profit in its pasturage, and a few who have utilized it profitably for hay. Our statistical correspondent for South Carolina, Mr. L. A. Ransom, thus reports upon this subject:

The peculiar character of this grass is that the stem is either partially or wholly underground and only the leafage above ground. It is low growing, makes a dense sod, and is tenacious of life. When thoroughly set, careful and painstaking work is necessary to eradicate it sufficiently for herd crops. It can, however, be thoroughly destroyed by such means.

It does not in this climate mature its seed, and is propagated by the root.

The following notes of cultivation of the Bermuda for hay, both on upland and lowland, are given by Ex-Governor Johnson Haywood:

The memoranda relative to the upland meadow was furnished me some three years ago by the late Dr. St. Julian Ravenel, of Charleston; the statements relative to the lowland meadow are from my own experience at Saluda Old Town, in Newberry County. The hay in Dr. Ravenel's experiments was weighed as taken from the meadow to the barn. The weight given by me is that of the hay when baled for market, after undergoing the second fermentation and large reduction in weight which ensues upon storing in the barn. From some experiments not very accurately made in ascertaining this shrinkage I am inclined to think that, allowance being made for it, the product of Dr. Ravenel's highly fertilized upland meadow and that of the Saluda lowland meadow, unfertilized except by river overflow, approximate nearer than the figures given would indicate.

Dr. Ravenel's upland meadow.

The land was sandy, level, dry, without stumps, long since exhausted, and too poor to bring either oats or corn without manure, containing, however, some Bermuda grass roots. It comprises an area of five acres near Charleston, S. C. Five acres of such land, which had been planted and manured for two years and freed from broom-sedge and weeds, was plowed with a two-horse plow on the 1st of May, 1874. A thousand pounds of ash element and two bushels of cow-peas were then sown broadcast to the acre—the land harrowed and rolled to make it as smooth as possible.

On the 1st of October there was a heavy growth of pea-vines, upon which seed of the native vetch was sown. It germinated quickly, grew all winter, and on the 10th of May was two feet high and very thick. Soon after it seeded profusely, died, and rotted on the ground.

Through this decomposing mass the Bermuda (*not planted*, but the natural growth increased by this cultivation) shot up, together with some weeds, which were pulled up.

On the 24th of July, 1875, the first cutting was made, which yielded 2,200 pounds, and on the 8th of October a second cutting yielded 2,900 pounds; altogether, 5,100 pounds of well-cured hay to the acre.

Second year.—A thousand pounds of ash element was immediately spread on the stubble (without plowing); a fine growth of vetch followed, occupying the land until the middle of May, and was at once succeeded by Bermuda, which was cut twice, yielding 8,400 pounds per acre of hay as the crop for 1876.

Third year.—The same plan was followed and a good crop taken in 1877, but it was not weighed.

Fourth year.—The crop of 1878 was taken in two cuttings: the first, on the 14th of August, weighed 5,464 pounds; the last, 3,600 pounds; together, 9,064 pounds per acre.

Fifth year.—The crop of 1879 was not weighed, but looked as well as that of 1878.

Sixth year.—The winter and spring of 1880 was so dry as to check the grass and delay the first cutting until the 21st of July; there was, however, ample time for another, and the yield was heavy, though not weighed.

The meadow, now nearly seven years old, was in very good condition, with a sod about three inches thick, free from broom-sedge and summer weeds.

REMARKS.

1st. For the preparation of such a meadow a spot must be chosen where the Bermuda grass naturally appears; unless there is some of it in the land originally, the effort to increase it without planting will be in vain.

2d. Bermuda grass when removed from the soil is very exhausting, and would soon impoverish land whose fertility was not kept up by constant overflow.

3d. On poor land the only method which has succeeded in securing and maintaining the necessary fertility at moderate cost is by the use of the two leguminous plants cow-peas and vetch, supplied with as much potash, lime, and phosphoric acid as the grass removes from the land.

4th. The native vetch may be found in all parts of this State, and when the land is supplied with the above materials grows vigorously and multiplies with great rapidity.

5th. If we assume that the nutritive value of forage is in proportion to the albuminous matter it contains, Bermuda hay compares favorably with that made of other grasses. I have found in some samples as much as 14 per cent., never less than 11 per cent. Crab-grass cut on a farm near Charleston and carefully cured gave 5.50 per cent.; corn blades, 9.36 per cent. The Northern hay sold here I do not think would average 8 per cent.

LOWLAND MEADOW.

The land was up-country river swamp, 75 acres, near Oldtown, S. C., and the alluvium several feet thick. At usual stage the river is six to ten feet below level of meadow; at high water all overflowed; no stagnant water, however, at any time on it. When water ran off the land drained itself well without the aid of ditches. The overflows are frequent in winter, infrequent in summer. This land had been cultivated in corn (no other crop) for seventy-five or one hundred years, and there were few stumps or sprouts in it. No manure had probably ever been applied to it, nor was any applied to it now.

All stumps and sprouts were carefully and thoroughly dug up, or dug around and cut off more than 12 inches below the surface. A few acres were already in the grass, it having been brought down by freshets from higher up the river, and this much of the field had been abandoned for arable culture for from three to five years. The old corn-beds were here leveled by chipping down with the hoe (not a good plan), but plowing would have been better.

The additional land desired to be set was then flushed up close and deep with the plow and the Bermuda roots sown freely over it, plowed in shallow, and then rolled with a 1,200-pound roller.

The first year—A strong and vigorous growth of annual weeds sprung up and soon got ahead of the grass. When these were from one to two feet high they were mown and raked by horse-power, and hauled off the land.

The grass now grew rapidly and soon afforded a cutting, but weeds were intermingled with it to an extent that made it unmerchantable hay. It was fed at home. A second harvest was obtained the last of August and first of September, which was first-class hay and free from weeds.

The second year—Annual weeds again preceded the grass in growth, but not nearly as thick as the first year. They were dealt with as before, and two harvests of hay, with a much smaller percentage unmerchantable from weeds, were had.

The third year—A few annual weeds appeared, but they were thick enough to need mowing only in spots, and this was done by hand. The first harvest was obtained a month earlier than before, and only one load in forty of hay was unmerchantable from weeds. The annual weeds in subsequent years gave little trouble. They precede the growth of the grass, and allowing a flock of some four or five sheep per acre to graze the meadow until the grass is fairly started was all that was necessary to keep them down.

The cow-itch vine and the broom-grass began now to appear on that portion of the meadow which had been longest in the grass. The former was grubbed as it appeared, and when broom-grass became troublesome on portions of the meadow so much was plowed, harrowed, and rolled, generally in March. It required four mules to a two-horse Watt plow, with a rolling coulter attachment, to do the plowing, and also extra force to the Scotch harrows, which were heavily weighted to make them tear thoroughly the tenacious furrow slice. This treatment kept the broom-grass in check, and seemed to renovate the meadow, improving its yield on these portions after the first next succeeding harvest. The tendency of this grass, like all others cut for hay, is to become sod-bound after a few years, and I am satisfied that a thorough scarification, such as would be given by the Chicago screw pulverizer or some similar implement, would be beneficial once in two or three years.

The Bermuda, as has been stated, is a thick and low-growing grass when occupying the land alone; consequently an extra smoothness of the meadow is required for the mower to get the full crop, and the cutting is heavier than other grasses. It was early observed that mingled with a growth of weeds in the struggle for light and air the Bermuda took on a different habit and extended its growth upwards instead of laterally. This led to the attempt to mingle with it a taller grass which would not deteriorate the quality of the hay. It was necessary to select grasses which did not require annual sowing, and which matured, at least for the first cutting, about the same time as the Bermuda. Herds-grass, timothy, and red clover filled these conditions. The two first were well adapted to such lands, and with red clover the only doubt was as to the effect of the overflow from the river. Accordingly, in the autumn of the first year, after frost, plots were staked off, and a sowing of each of these grasses was made on the Bermuda. The stubble was burned off first in part of these plots and in the other part it remained as left by the mower. A harrow was run over it when the land was moist, and after sowing the harrow was again used.

The catch was excellent with each one of the grasses, and the next spring the following results were shown: While with all the object was obtained of giving the upward development to the Bermuda, the timothy and herds-grass struggled with it for possession of the soil, the Bermuda having the best of the fight, and the yield of the hay was increased to no very great extent. With the red clover, however, the case was different. It and the Bermuda each grew as if it was planted alone, and the mass of grass upon the land was apparently doubled. The reason was evident; timothy and herds-grass, like the Bermuda, were surface-rooted, and fed upon the same area of soil, while the tap-rooted clover, going below the Bermuda, drew its sustenance from a different but equally rich stratum of alluvium. It was like superimposing one meadow upon another and doubling the producing area. The winter freshets have shown that at that period of its growth the clover is not damaged by them. These freshets several times during each winter cover the meadow with slow-moving backwater from three to ten days at a time. One objection is found, however, to the use of clover in combination with Bermuda. The first cutting is excellent hay, but the second cutting is only fit for cattle, there being sufficient clover in it mixed with the Bermuda to make the hay salivate the horses.

The whole meadow of 75 acres was not set out in one year. About 45 acres, including what was already in the grass, was the work of the first year, and the meadow was extended annually for the next three years until its present area was reached.

The yield of these several extensions was carefully noted from harvest to harvest, and the following is the average result:

The first year about 3,000 pounds of hay per acre. The second year, and afterwards, from 4,000 to 6,000 pounds. The last year, being the fifth, the whole meadow promised to yield fully the last-mentioned amount, but the second and most valuable cutting was entirely lost by a summer freshet just as the mowers were put to work. I think an average of from 4,000 to 5,000 pounds is what may be safely calculated upon in a series of years, according to seasons, and including the damage of the occasional summer overflows.

The cost of establishing the meadow was about $8 per acre; the cost of mowing and putting hay in barn, about $2 per ton. This of course does not cover all the expenses of making and selling a ton of hay, but is mentioned because of the novelty of that kind of work to many in this section. The sales of the hay, baled and delivered on the cars at my railroad station, has ranged from $20 to $25 per ton, and it has met with as ready sale as beef, mutton, cotton, or any other product of the farm.

Table showing the acreage and condition of the crops, &c., July 1, 1883.

States and Territories.	Corn.		Wheat.		Rye.		Oats.—Average condition July 1.	Barley.—Average condition July 1.	Potatoes (Solanum tuberosum).		Potatoes (Batatas edulis), sweet.		Beans.		Sorghum.		Tobacco.		Cotton.—Average condition July 1.	Wool.—Amount of wool compared with last year.	Clover.—Average condition July 1.	Timothy.—Average condition July 1.	Pasture.—Average condition July 1.	Apples.—Average condition July 1.	Peaches.—Average condition July 1.	Grapes.—Average condition July 1.
	Acreage compared with last year.	Average condition July 1.	Average condition of winter wheat July 1.	Average condition of spring wheat July 1.	Average condition of winter rye July 1.	Average condition of spring rye July 1.			Acreage compared with last year.	Average condition July 1.	Acreage compared with last year.	Average condition July 1.	Acreage compared with last year.	Average condition July 1.	Acreage compared with last year.	Average condition July 1.	Acreage compared with last year.	Average condition July 1.								
Maine	98	102	.....	103	104	103	103	98	106	101	.....	.....	104	99	.....	.....	.....	.....	.....	100	106	103	104	83	.....	82
New Hampshire	102	103	.....	104	103	102	104	103	103	104	.....	.....	104	101	.....	.....	.....	.....	.....	100	100	97	103	80	85	102
Vermont	104	99	.....	102	106	101	104	101	104	103	.....	.....	101	101	.....	.....	95	97	100	99	103	103	104	82	76	80
Massachusetts	102	99	90	100	101	100	99	100	116	104	.....	.....	101	100	.....	.....	95	101	.....	103	98	100	102	85	100	90
Rhode Island	107	103	.....	.....	102	100	102	99	115	104	.....	.....	97	97	.....	.....	.....	.....	.....	101	98	101	98	80	87	80
Connecticut	99	104	93	.....	99	103	106	102	112	103	.....	.....	100	100	100	100	.....	74	.....	98	91	96	101	76	85	93
New York	99	84	67	99	96	99	100	103	105	99	100	97	98	95	105	88	94	93	87	100	101	100	105	70	50	90
New Jersey	101	98	100	.....	101	.....	105	.....	108	106	97	95	100	101	100	90	.....	.....	.....	101	101	100	103	70	100	90
Pennsylvania	101	89	93	.....	103	.....	104	91	103	102	100	98	102	99	101	94	.....	.....	.....	102	105	103	105	75	82	83
Delaware	100	91	81	.....	98	.....	103	.....	103	100	100	100	102	102	100	100	.....	.....	94	100	103	102	103	75	70	100
Maryland	100	90	94	.....	103	.....	98	97	103	104	103	99	105	100	102	97	.....	.....	.....	100	106	98	106	85	83	100
Virginia	100	93	96	.....	97	.....	87	.....	102	93	100	96	100	100	90	87	104	91	99	103	101	99	102	88	97	100
North Carolina	101	91	92	.....	101	.....	85	.....	100	88	100	98	100	90	94	93	98	80	80	101	97	95	95	70	55	85
South Carolina	101	92	98	.....	95	.....	87	90	102	95	100	93	100	99	98	98	.....	.....	91	98	95	.....	97	52	57	90
Georgia	99	96	84	.....	91	.....	93	.....	105	101	103	92	100	96	97	96	102	94	93	96	101	102	101	80	75	90
Florida	101	97	.....	.....	100	.....	88	.....	118	98	95	97	100	101	98	100	99	98	95	100	.....	.....	103	97	60	103
Alabama	99	92	.....	.....	92	.....	88	95	115	99	100	94	101	100	95	92	100	87	87	96	101	96	100	80	62	87
Mississippi	102	100	94	.....	100	.....	92	.....	105	97	100	100	.....	.....	100	99	100	99	89	100	102	97	103	80	70	90
Louisiana	117	103	82	.....	.....	.....	96	.....	102	103	98	99	102	98	93	100	100	99	91	92	103	100	101	75	70	85
Texas	110	96	.....	87	.....	92	.....	87	103	95	103	91	99	88	100	84	103	95	93	106	.....	.....	100	70	53	85
Arkansas	109	99	.....	75	.....	105	.....	100	111	103	97	93	101	100	96	97	100	97	84	95	104	102	103	63	56	90
Tennessee	103	92	.....	73	.....	90	.....	97	112	99	99	94	100	98	97	90	92	93	88	97	98	98	104	64	71	93
West Virginia	100	95	.....	96	.....	96	.....	98	104	106	100	99	100	100	95	97	97	98	.....	104	105	103	107	75	87	85
Kentucky	105	91	.....	78	.....	86	.....	99	101	103	100	95	100	99	96	92	95	93	.....	102	104	101	104	72	83	93
Ohio	103	83	.....	65	.....	84	.....	103	107	107	97	95	97	94	95	86	95	98	.....	100	96	100	107	51	57	80

Michigan	98	73	86	.....	96	.....	101	99	101	97	100	100	101	93	105	88	.....	.....	....	107	105	103	106	70	70	80			
Indiana	103	92	76	.....	91	.....	75	86	105	106	98	96	99	96	98	90	105	100	....	101	100	99	105	55	53	75			
Illinois	103	85	56	.....	95	.....	97	97	102	105	96	94	95	95	95	87	110	93	...	102	101	102	104	66	75	66			
Wisconsin	99	81	....	100	102	.....	103	102	101	95	.....	....	96	92	93	95	91	92	....	102	105	103	104	53	...	80			
Minnesota	110	85	.....	97	97	.....	102	100	105	98		.....	104	98	95	86	100	98	....	102	103	99	101	84	....	95			
Iowa	113	80	.....	100	96	.....	104	98	105	102	100	82	103	95	99	85	.....	.....	....	105	106	106	108	64	62	61			
Missouri	102	82	75	.....	86	.....	102	80	105	96	94	91	98	95	93	89	98	91	77	103	101	102	105	65	70	65			
Kansas	110	98	97	.....	101	.....	105	100	110	106	99	98	102	101	114	100	.....	.....	....	117	101	101	107	85	58	94			
Nebraska	119	87	.....	104	94	83	108	105	113	104	105	95	100	98	100	94	.....	....	..	125	105	105	105	90	77	88			
California	102	97	92	.....	80	.....	96	90	102	98	100	95	100	99	100	100	.....	.....	...	102	103	105	99	67	67	90			
Oregon	101	83	88	87	95	97	80	87	104	90	.....	.....	102	97	100	95	.....	.....		105	80	85	90	50	80	95			
Nevada	102	97	100	101	100	.....	100	95	103	100	.....	.....	115	100	...	.....	.....	...	....	101	106	103	105	70	.....	...			
Colorado	101	94	.....	99	101	95	105	102	104	98	100	80	100	93	102	92	...	.....	...	101	116	100	103	102	....	87			
Arizona	101	80	80	.....	.....	.....	...	78	108	80		.....	100	90	.....	.....	.....	.....	...	.	...	....	50	35	....	50			
Dakota	145	78	.....	103	103	.....	105	102	117	96	100	100	123	100	137	90		.....	...	198	101	100	105	90	....	102			
Idaho	103	100	....	100	103	.....	105	103	110	100	.....	.....	.	..	.....	.....	.....	.....	..	.....	100	....	100	100	.....	.....			
Montana	102	90	.....	95	.....	.....	95	100	103	95	.....		100	97	.....	.....	.....	.....	....	118	.....	...	102	100	....	100			
New Mexico	102	88	98	94	.....	.....	90	98	102	100	115	100	104	98	.....	.....	....	.....	....	90	97	100	76	75	80	100			
Utah	101	91	..	100	102	.....	104	102	102	99	100	100	93	97	100	99	.....	...	....	105	94	97	96	91	70	80			
Washington	101	96	88	90	100	95	101	103	109	98	.....	.....	102	102	.....	.....	.....	....	..	94	89	96	99	59	....	100			
Wyoming	.....	....	.....	....	.....	.....	....	....	.. ..	.....	..	....	.....	..	....	.....	.....	.....	..	.....	....	..	.....	...	.....	...			
Indian Territory	.....	....	.....	.....	.....	.....	....	....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....	...	....	....	....	..	....	..	....			

EUROPEAN CROP PROSPECTS.

By Edmund J. Moffat, *Statistical Agent.*

GREAT BRITAIN.

Roughly speaking, June has been divided into three parts—a dry, warm period, a cool and rainy period, and a hot and showery period, giving as a result a month wholesome in its effects on nearly all crops. Complaints as to the starting and checking of vegetation by the series of chilly nights have now ceased, as the latter part of the month has been moist and hot and the night temperature has remained high. The frequent showers, while retarding haymaking, have been welcomed as a change from the comparatively dry weather of May and early June, and now in many parts of the country rain is no longer needed, and the semi-tropical heat which appears to have set in is all that can be desired. South of the Humber the wheat is now entering on the earing and blooming period. In the best wheat districts, like the Fens of Lincolnshire, and on all the better lands, the plant is promising well, but on the weaker soils the climatic defects of the wet autumn and winter are painfully visible in the thin and patchy form and the poor color. However, the realization of this month has been so much better than the expectations that farmers are in good spirits, and there is now but few who dissent from the opinion that the deficiency this year as compared with the average yield per acre will be slight unless most unseasonable weather comes on. But, independent of this consideration, it is easily demonstrable from the deficiency in acreage that Great Britain, France, Holland, and Belgium, which have suffered this year from the same climatic conditions as regards the difficulty of sowing autumn wheat, will need more than 100,000,000 bushels in excess of last year to supply home wants, and the question for the American producer is whether his supplies will be in any way sufficient to meet the demand, or whether the American output for export will be so small as to leave the market to the Indian and Russian wheats. India's exportable surplus this year is said to be about 40,000,000 of bushels, and great efforts are being made both in England and India to stimulate the wheat production and increase the facilities for transportation. The serious matter of the competition is of course a question of several years, but in the mean while it may well be looked to. A second Suez Canal it is confidently predicted will reduce the freightage of Indian wheat 25 cents a bushel, and this, combined with the cheapness of labor in India, will enable India to undersell the United States in all the European markets The English economists look upon the prospect with great satisfaction, but it is difficult to see wherein the long-suffering English farmer is to be benefited by more competition, whether it comes from the Indian Empire or the United States. I inclose the official report of McDougall Brothers, of Mark Lane, made to the secretary of state for India, in which they prove to their own satisfaction that for milling and baking qualities Indian wheat holds the first rank.

Reports from all the hop centers are uniform in stating that the prospects are excellent, and an abundant crop is predicted. The plantations show a strong line of healthy color, vigorous lateral shoots, and very little vermin. The fears that were expressed last month of loss by aphides, mold, and mildew have proved unfounded, and with the present warm and sultry weather there is little danger of their putting in an appearance. It may be added that the hop gardens of Germany, France, and Belgium are likewise unusually promising. Prices are from $25 to $30 a cut more than at this time last year. American bring from $57.50 to $67; Bavarian, $70 to $95; Farnham, $70 to $85; East Kent, $60 to $80; and Sussex, $50 to $70.

The late rains in Scotland have come in time to work a great change for the better in the harvest prospects. Potatoes, one of the most important Scotch crops, are progressing well, and are in a very healthy condition. All reports from Ireland agree that the agricultural outlook has not been better for many years.

FRANCE.

The ministry of agriculture have lately issued their final statistics of the crops of 1882, which give the results of the last harvest much in excess of the provisional estimates of last autumn, and form a more valuable basis for predicting the coming crops.

	Surface cultivated.	Total production.	Average per hectare.
	Hectares.	*Hectoliters.*	*Hectoliters.*
Wheat	6,907,792	122,153,524	17.70
Maslin	396,316	7,262,959	18.33
Rye	1,871,052	29,487.099	15.76
Barley	995,006	19,392,577	19.48
Oats	3,517,312	89,697,900	25.50
Buckwheat	643,795	10,925,296	16.97
Maize	630,557	9,678,046	15.35
Millet	38,320	554,897	14.48
Potatoes	1,344,555	111,996,464	83.29

The average production of wheat per hectare was 17.70 hectoliters, as against 14.56 hectoliters, the average of the last ten years. The bulletin also gives the following agricultural statistics for 1882:

	Surface cultivated.	Average production.	Total product.
Beet root:	*Hectares.*	*Kilograms.*	*Metric quintals.*
For sugar	237,456	35,013	83,142,716
For forage	237,990	31,544	75,072,248
Hops	3,481	907	31,395
Cabbage	112,704	940	1,154,185
Hemp:			
For seed	32,396	424	137,399
For manufacture	73,519	573	421,880
Flax:			
For seed	32,460	655	212,839
For manufacture	54,146	761	412,089
Tobacco	13,104	1,301	170,535
Grass	4,334,255	3,631	157,402,936
Trefoil	1,061,626	4,087	43,396,612
Lucern	858,096	4,534	38,909,667
S infoin	589,321	3,651	21,520,824
Other forage crops	203,389	5,990	12,184,798
Grape-vine	2,312,458	.....	*40,162,715

* Hectoliters.

The hectare equaling 2.471 acres; the hectoliter, 2.83 bushels; the kilogram, 2.20 pounds; and the metric quintal, 220.46 pounds.

France in her various departments has been visited by nearly every variety of weather that June could produce, but on the whole the result has been nowise prejudicial to the crops. Rain has fallen at timely intervals, and warmer weather has in the main righted the damages done by the chilly nights, and the last week of the month has been very forcing for all vegetation. On the better lands the wheat promises exceedingly well, but the frequent complaints that the straw is short and limp and that the ears have not developed to the degree desired lead the *Bulletin des Halles* to doubt if the crop on the reduced acreage will attain an average, and the probable result of the harvest is placed at under 100,000,000 hectaliters, or about 70,000,000 bushels less than last year. My estimate of 50,000,000 bushels last month was based on the provisional estimate of 115,000,000 hectaliters as the result of the last harvest, which the later statistics have increased to 122,000,000. The figures given of 10 per cent. reduction in wheat acreage are adhered to, to which may be added that the deficiency is most notable in the northern departments, where about one-fourth of the whole crop is raised. Rain has fallen in abundance, and the fine warm weather

now prevailing over France is exactly what is needed for the flowering period of the wheat in the central and northern departments. The harvest in Algeria is now in progress on the plains, and the results have been very satisfactory.

RUSSIA.

The general prospects of wheat, especially in the south, are satisfactory, the later official and unofficial reports giving more details of the situation than has been obtainable heretofore. Coupled with this news comes the reports of the ravages of locusts in different provinces, at distances far apart. At Charkoff the crops of a fertile tract of 50,000 acres have been entirely destroyed; also in the district of Novokopersch, in the government of Voroneschki, and in the neighborhood of Taganrog, so famous for its wheat, the same destruction is going on. The grain and locusts have been burnt together in order to stamp out the pest. In Borissoglebsk 70,000 acres have been destroyed, and locusts have also appeared in Balaschevski. Vigorous efforts are being made by the local governments to stop the destruction, and the later reports show that some success has been achieved in this direction. The wheat reports are as follows: *Government of Ekatereinosslaw:* In consequence of the unfavorable weather at the commencement of spring, winter wheat (azime) failed, and has been replaced by spring wheat (ghirka). Rye has also suffered, but the May rains have greatly benefited it and the condition is now satisfactory. Spring wheat is now doing well. Forage is very abundant except in the province of Rastoff. *Government of Taurida:* Prospects of cereals and forage are everywhere promising. The districts of Berdranska and Melitopol are, however, exceptions, winter wheat looking badly and locusts having put in an appearance. *Government of Cherson:* Winter wheat is good except in certain localities where it has been winter-killed. Spring wheat is progressing well. Locusts have appeared here also. *Government of Bessarabia:* In the districts of Kischenen, Ismail, Chotin, Bendery, and Akermann winter wheat is very satisfactory, but in Orgeaw and around Jassay it is deficient, and in the district of Soroka the crop is a complete failure. *Government of the Southeast:* In Podolia and around Kieff the cereals and forage are fine. In the vicinity of Wolinsk winter wheat has suffered from cold, but the present warm weather will in part revive it.

GERMANY.

In the earlier part of the month heavy rains fell in all parts of Germany, followed by a dry period, which made its effects felt more particularly in the north. The month closes with warm weather, broken by showers, which has made the general condition of the wheat plant satisfactory. Less complaint is heard about rye than last month. In Berlin and Hamburg, as in all the other European grain markets, trade has been dull in consequence of the continually receding quotations from New York and London.

AUSTRIA-HUNGARY.

The official report for the week ending June 20 states that the late rains have in general been very beneficial to the growing crops, although in some districts they have done damage. Spring grain has made much progress under the influence of the higher temperature. Forage is good, and in many places superior. Speculators at Buda-Pesth, who have been buying for a rise, early in the month created some alarm by reporting great danger to the growing crops by rust. This has now been effectually disproved, and a retrograde movement has commenced in the price of wheat. The general belief is that the grain harvest will equal, if it does not surpass, that of last year, which, as well known, was a large one. Hungary's grain products were valued at $370,000,000, and Austria's at $210,000,000. The consul at Buda-Pesth, under date of June 25, writes: "The weather during the last week has not been favorable for the development and ripening of the crops, it having been cold

and stormy. However, I think this will have no further effect upon the general result than to throw back the harvest a few days later; the general prospect does not indicate much change from the previous favorable reports. There is still every chance in favor of a good crop, although it may not be as large as the appearances in early spring indicated. I think my position warrants me in saying that as a whole the harvest will not fall short of last year's, when in Hungary there was a crop of 138,000,000 bushels of wheat and 61,000,000 of rye, giving a surplus of 62,000,000 wheat and 30,000,000 rye for export."

CATTLE FROM SPAIN.

The cattle trade from Spanish ports has somewhat improved the last two or three years. Nevertheless the tables of imports into Great Britain tend to show that there have been larger numbers in previous years. The British consul at Corunna reported some time ago as follows:

The American trade in cattle and meat with the United Kingdom has at last affected the trade of Galicia. This is the only district, vast as it is, whence the export of cattle continues, and that on a small scale. There are at present only seven schooners running, in lieu of twenty and thirty in previous years. Unless the farmer here reduces the high rates which have been ruling in former years, it is expected that superior American beasts can be brought to London at the same prices as Spanish cattle. The other exports are of little importance; excepting cattle, all are of minor value—pine props for mining purposes, eggs, bones, &c.

Since this report was written there has been some revival. Nevertheless these are points which may be of interest to note.

CATTLE FROM GERMANY.

One of the British representatives at a German seaport alluded in a report to the decline in the cattle trade between Germany and Great Britain, and said some time ago:

It is probably unnecessary to repeat that the extinction of this branch of trade had been mainly caused by the introduction and increased severity of restriction in Great Britain in regard to the importation of live cattle into the ports of the United Kingdom. It is, of course, not surprising that much dissatisfaction obtains in all cattle-exporting districts in view of the unfavorable effect thus produced. The action of Parliament in regard to the Contagious Diseases Bill has caused many complaints, as the breeders in Germany have to a very large extent depended on the facilities offered by exportation to Great Britain.

It is unfortunately the fact that, notwithstanding the enforcement of very strict enactments, it seems evident that even in ordinary times when there may be apparently no danger of contagion, yet the strictest vigilance is necessary. Experience has shown that a cattle plague may appear at any moment in a country whose borders are under the influence of the Russian neighbors. Poland and other provinces form the very hot-bed of diseases of that kind. Under the circumstances a more vigorous and determined necessity impelled the authorities to enforce regulations which tend to guard against the evils of cattle disease.

There should be added to the foregoing report that the authorities in Russia are apparently not cordially co-operating with Prussia. Moreover it is a well-known fact that the transportation by railway from interior districts to the seaboard has been at all times carried on in a

very unsatisfactory manner. Doubtful economy, and consequent total absence of cleanliness, caused the cattle to be packed in the cars like herrings, and exposed to the weather at all seasons in open cars, with no regular attention to feeding and watering.

CATTLE IN GERMANY.

Imports.		Exports.	
Years.	Horned, sheep, and swine.	Years.	Horned, sheep, and swine.
	Number.		*Number.*
1872	1,490,015	1872	1,719,005
1873	1,920,890	1873	1,478,612
1874	1,366,421	1874	1,294,327
1875	1,780,941	1875	1,658,385
1876	2,259,113	1876	2,016,693
1877	2,443,251	1877	1,848,401
1878	2,274,223	1878	2,342,866
1879	1,650,818	1879	1,849,400
1880	1,583,287	1880	1,946,451
1881	1,473,790	1881	1,887,023

RECAPITULATION.

1872–'76	8,817,385	1872–'76	8,167,022
1877–'81	9,428,359	1877–'81	9,874,140
Total	18,245,744	Total	18,041,162
Increase in 5 years	610,974	Increase in 5 years	1,707,118
Difference between the two periods			1,096,144

CATTLE EXPORTED FROM SWEDEN.

Years.	Horned cattle.	Sheep.	Swine.
	Number.	*Number.*	*Number.*
1865	7,212	11,268	15,706
1866	14,568	8,777	8,722
1867	18,117	6,010	3,918
1868	16,416	7,401	3,076
1869	14,583	8,476	10,749
1870	13,506	8,930	10,832
1871	14,276	17,137	11,537
1872	16,884	18,208	24,527
1873	26,245	14,728	19,987
1874	22,865	21,689	11,116
1875	20,363	16,708	13,115
1876	20,535	18,521	13,285
1877	20,528	19,068	12,762
1878	31,884	24,321	20,761
1879	30,475	23,194	14,375
1880	34,241	29,591	21,644
1881	19,000	21,000	24,300
1882	26,500	29,000	26,200

RECAPITULATION.

1867–'71	76,892	47,954	40,112
1872–'76	106,870	89,834	80,043
1877–'81	126,128	117,174	100,842

CATTLE EXPORTED FROM DENMARK.

Years.	Horned cattle.	Sheep.	Swine.
	Number.	*Number.*	*Number.*
1866	55,844	19,604	39,455
1867	51,969	9,766	44,825
1868	51,616	7,639	32,225
1869	46,425	8,651	14,500
1870	44,732	7,862	16,050
1871	50,316	21,038	69,623
1872	64,765	39,099	149,489
1873	71,256	40,396	188,306
1874	79,876	40,722	195,823
1875	103,973	71,393	166,569
1876	114,915	62,129	180,889
1877	95,387	44,225	221,596
1878	98,345	68,406	192,160
1879	85,224	56,092	218,116
1880	99,831	87,328	251,459
RECAPITULATION.			
1866–70	250,586	53,522	147,058
1871–75	370,156	212,648	769,806
1876–80	493,702	318,180	1,064,220

THE WOBURN EXPERIMENTS.

The Royal Agricultural Society publishes the results of a series of tests made to show, 1, the effect of withholding all fertilizers from cereals; 2, the influence of various artificial fertilizers and of barnyard manure; 3, comparative manurial value of decorticated cotton cake and maize meal; 4, the unexpended virtue of artificial fertilizers. The experiments were continued seven consecutive years. The grains were wheat and barley; and the ground was divided into plots of a quarter of an acre, and every test on wheat was duplicated for barley.

Two plots, I and VII, were unmanured. Allowing for a difference in seasons, it may be said that their yield gradually diminished, beginning with 22⅛ bushels of wheat per acre, in 1877, decreasing to 9.6, and averaging 16 bushels for the whole period.

Plot II received annually 200 pounds of ammonia salts; its average return for the time was 23½ bushels.

Plot III was treated in a similar way, the nitrogenous supply being furnished by 275 pounds nitrate of soda instead of the ammoniacal salts, and the result was an average of 22.2 bushels; although in five out of six seasons the yield was somewhat more from the ammonia salts than from the nitrate of soda. The latter, especially in wet seasons, exerts more energy on the straw than on the berry.

Mineral fertilizers—sulphates of potash, soda, and magnesia, and superphosphate of lime—applied to plot IV produced no appreciable results. The yield was less than that of the unmanured plot I for the first two years, and but little larger the remaining years; while the barley product was really less; the figures for barley being 22.1 bushels against 27.5; the present color of the growing plant is inferior to all of the other plots. Plot V received the same mineral manure, to which was added 200 pounds of salts of ammonia; and plot VI was

similarly treated, receiving the equivalent of ammonia from 275 pounds of nitrate of soda. Plots VIII and IX were manured, as were V and VI, except that the nitrogenous elements were doubled, 400 pounds of salts of ammonia and 550 pounds of nitrate of soda. The results from V and VI were but one-fifth of a bushel per acre apart in favor of the ammonia salts, the average being 29.1 bushels and 28.9. The barley plots showed a difference in favor of the soda, the average being 42.6 against 41.2 bushels, the slight divergence indicating that nitrate of soda is more beneficial to barley, and salts of ammonia to wheat. The plots to which were applied the double quantity of ammonia appear much alike and remarkably well, the average product being from the ammonia salts 36.2 bushels, and from the nitrate of soda 33.8. A similar result is noted on the barley plots, the difference—not over half a bushel per acre—being also in favor of the ammonia.

Plot X received four tons of good farm-yard manure annually, and produced at the rate of 18 bushels per acre. The manure was doubled on Plot XI, and the return was 22.6 bushels—much less in both cases than from an equal amount of ammonia in the shape of the salts or of nitrate of soda.

Tests of the comparative value of manure from decorticated cotton cake and from maize meal show, contrary to the general belief, that the meal has a greater value, and while the difference is slight, give rise to the question: Are English farmers throwing away money on cotton cake?

The experiments conducted to determine whether or not artificial manures were of value to land beyond the season in which they are applied were of peculiar interest to the tenant farmer as well as to the landlord. The tests were thorough and decisive. Plots VIII and IX received each for five years 200 pounds sulphate of potash, 100 pounds sulphate of soda, 100 pounds sulphate of magnesia, and 3½ cwts. superphosphate of lime. In addition, it will be remembered, was, in one case, 400 pounds salts of ammonia, and in the other, 550 pounds nitrate of soda. In 1882 one-half of each of these plots was left unmanured, the other half receiving the regular amount. The crop on the unmanured half of Plot VIII was 13.3 bushels per acre, or one bushel more than the unmanured Plot I, which was 12.3 bushels, and 3 bushels less than the average of the unfertilized plots. The manured half produced 43.5 bushels per acre. The test is still in progress, the half plots being interchanged, and the appearance indicates a repetition of last year's result. The unmanured half looks no better than the plots to which no fertilizer has been applied. The same effect was noted on Plot IX, the unmanured portion showing no traces of its generous treatment in the previous five years.

In brief, the experiments show that mineral manures alone do not increase the product of wheat or barley; that the increase is due to nitrogenous matter; that a quantity of farm-yard manure, supposed to possess an equivalent in ammonia to ammonia salts, in fact displays much less virtue; and that artificial fertilizers lose all their power before the

second crop appears; and also that manure resulting from feeding corn meal is worth quite as much as that from from cotton-seed cake.

RATES OF TRANSPORTATION.

There have been very few important changes in the rates of freight governing the principal trunk lines during the past month. The Pennsylvania Company, Baltimore and Ohio Railroad Company, New York Central and Hudson River Railroad Company, and the Merchants' and Miners' Transportation Company report no change in their tariffs, except the New York Central and Hudson River Railroad Company, which makes a slight change in the rates on salt in bags or barrels.

FREIGHT RATES—RAILROAD COMPANIES.

GRAND TRUNK RAILWAY.

Articles.	Portland to—		Boston to—		Portland from—		Boston from—	
	Chicago.	Detroit.	Chicago.	Detroit.	Chicago.	Detroit.	Chicago.	Detroit.
Agricultural implements, C. L., per 100 pounds.	$0 35	$0 25	$0 35	$0 25	$0 50	$0 40	$0 50	$0 40
Apples:								
L. C. L., O. R ..... per 100 lbs..	75	53	75	53	35	28½	35	28½
C. L ..... do.....	45	32	45	32	30	24½	30	24½
Bacon, in boxes or casks..... do.....	35	25	35	25	35	28½	35	28½
Beans ..... do.....	45	32	45	32	50	40	50	40
Beef, salted, in barrels ..... do.....	35	25	35	25	35	28½	35	28½
Butter, O. R ..... do.....	60	42	60	42	75	59½	75	59½
Cheese, in boxes or casks..... do	60	42	60	42	65	52	65	52
Coal, in barrels ..... do.....	35	25	35	25	50	40	50	40
Cotton, in bales ..... do	45	32	45	32	.....	.....	.....	.....
Eggs, in cases or barrels..... do.....	.....	.....	.....	.....	75	59½	75	59½
Fertilizers:								
C. L ..... do	35	25	35	25	30	24½	30	24½
L. C. L ..... do.....	35	25	35	25	50	40	50	40
Grain:								
In bags ..... do.....	35	25	35	25	35	28½	35	28½
In bulk, C. L..... do.....	35	25	35	25	30	24½	30	24½
Guano:								
In bags, L. C. L..... do.....	35	25	35	25	50	40	50	40
In bags, C. L..... do	35	25	35	25	30	24½	30	24½
Hams, in boxes or barrels.. ..... do	35	25	35	25	35	28½	35	28½
Hay:								
In bales, C. L ..... do.....	.....	.....	.....	.....	30	24½	30	24½
In bales, L. C. L..... do	.....	.....	.....	.....	75	59½	75	59½
Hides:								
Dry, loose ..... do.....	75	53	75	53	1 65	1 32	1 65	1 32
Green, C. L ..... do	35	25	35	25	35	28½	35	28½
Hogs, dressed ..... do	35	25	35	25	35	28½	35	28½
Hops ..... do.....	60	42	60	42	95	76½	95	76½
Lard..... do	35	25	35	25	35	28½	35	28½
Lime, in casks..... ..... do	35	25	35	25	35	28½	35	28½
Lumber, C. L., 24,000 pounds .....do.....	35	25	35	25	35	27½	35	27½
Meal:								
In barrels ..... do.....	35	25	35	25	35	28½	35	28½
In bags, O. R ..... do.....	45	32	45	32	35	28½	35	28½
Pork, salted ..... do	35	25	35	25	35	28½	35	28½
Potatoes:								
Common, O. R ..... do	45	32	45	32	50	40	50	40
Common, C. L., O. R ..... do	35	25	35	25	35	28½	35	28½
Sweet, O. R... ..... do.....	.....	.....	.....	.....	75	59½	75	59½
Rice, in tierces ..... do.....	35	25	35	25	50	40	50	40
Salt:								
In sacks ..... do	35	25	35	25	50	40	50	40
In sacks, C. L ..... do.....	25	18	25	18	35	27½	35	27½
Tobacco, unmanufactured, in hogsheads, per 100 pounds.	45	32	45	32	.....	.....	.....	.....
Wool:								
Foreign, pressed, in bales, per 100 pounds.	45	32	45	32	79	59½	79	59½
In sacks..... per 100 lbs..	1 12½	79½	1 12½	79½	95	76½	95	76½

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk.

FREIGHT RATES—RAILROAD COMPANIES.

MICHIGAN CENTRAL RAILROAD.

Articles.	Chicago to—			Chicago from—		
	Jackson.	Detroit.	Buffalo.	Jackson.	Detroit.	Buffalo.
Agricultural implements, C. L ..... per 100 lbs..	$0 12½	$0 12½	$0 25	$0 19	$0 12½	$0 15
Apples, green, C. L ..... do.....	12½	12½	Barrel 30	20	12½	15
Bacon, packed ..... do.....	L. C. L. 20 / C. L. 12½	L. C. L. 20 / C. L. 12½	L. C. L. / C. L. 17½	20	L. C. L. 18 / C. L. 12½	L. C. L. 17½ / C. L. 15
Beans, C. L ..... do.....	12½	12½	17½	15	12½	15
Beef:						
In barrels or tierces ..... do.....	L. C. L. 20 / C. L. 12½	L. C. L. 20 / C. L. 12½	L. C. L. / C. L. 17½	20	L. C. L. 18 / C. L. 12½	L. C. L. 17½ / C. L. 15
Dressed, ordinary cars ..... do.....	40	40	35	40	45	40
Butter, in wood ..... do.....	L. C. L. 30 / C. L. 25	L. C. L. 30 / C. L. 25	38	34	L. C. L. 35 / C. L. 25	L. C. L. 35 / C. L. 25
Cattle, horses, mules, C. L. (estimated weights) ..... do.....	20	20	32½	17	18	17½
Cheese, in boxes or casks ..... do.....	L. C. L. 25 / C. L. 20	L. C. L. 25 / C. L. 20	32½	27	L. C. L. 25 / C. L. 18	L. C. L. 25 / C. L. 17½
Fertilizers:						
In packages, L. C. L ..... do.....	20	20	25	20	18	17½
In packages, C. L ..... do.....	10	10	15	11½	10	12½
Flour, C. L ..... per barrel..	20	20	30	30	20	25
Grain:						
In barrels or sacks, L. C. L ..... per 100 lbs..	20	20	17½	20	18	17½
In bulk, C. L. (minimum weight, 24,000 pounds) ..... do.....	10	10	15	15	10	12½
Guano:						
In packages, L. C. L ..... do.....	20	20	25	20	18	17½
C. L ..... do.....	10	10	15	11½	10	12½
Hams, packed ..... do.....	L. C. L. 20 / C. L. 12½	L. C. L. 20 / C. L. 12½	L. C. L. / C. L. 17½	20	L. C. L. 18 / C. L. 12½	L. C. L. 17½ / C. L. 15
Hides, dry pressed, in bales:						
L. C. L ..... do.....	30	30	47½	34	35	35
C. L (minimum weight, 14,000 pounds) ..... do.....	25	25	38		25	25
Hops, pressed in bales ..... do.....	25	25	47½	L. C. L. 27 / C. L. 20	25	25
Hogs:						
Dressed, O. R. (refrigerator cars) ..... do.....	L. C. L. 25 / C. L. 20	L. C. L. 25 / C. L. 20	35	L. C. L. 34 / C. L. 27	L. C. L. 25 / C. L. 18	L. C. L. 25 / C. L. 17½
Live, C. L. (estimated weights) ..... do.....	20	20	17½	Car D D. 37 00 / Car S D. 27 00	18	17½
Lard, in wood ..... do.....	L. C. L. 20 / C. L. 12½	L. C. L. 20 / C. L. 12½	17½	20	L. C. L. 18 / C. L. 12½	L. C. L. 17½ / C. L. 12½
Meal:						
Oats or corn, C. L ..... per barrel..	20	20	30	30	20	25

In bulk, C. L	per 100 lbs		10		10		15		15		10	12½
Pork, pickled, barrels (320 pounds per barrel)	do	L. C. L.	20	L. C. L.	20	L. C. L.	17½		20	L. C. L.	18	L. C. L. 17½
		C. L.	12½	C. L.	12½	C. L.				C. L.	12½	C. L. 15
Potatoes, in bags or barrels:												
L. C. L	do		20		20		25		20		18	17½
C. L	do		10		10		17½		15		10	12½
Rice, in barrels or tierces	do		12½		12½		25		20		12½	15
Salt:												
C. L	do		10		10		17½		12⅓		10	12½
Table, boxes or bags, L. C. L	do		20		20		25		27		18	17½
Sheep, live, C. L (estimated weights)	do		20		20		32½	Car D. D. 34 00 / Car S. D. 27 00			18	17½
Wool, in bales, compressed, C. L	do		*30		*30		†32½		34		35	35

* Actual weight.

† Minimum weight, 20,000 to 24,000 pounds.

C. L.—Car-load.
L. C. L.—Less than car-load.
O. R.—Owner's risk.

FREIGHT RATES—RAILROAD COMPANIES.

CHICAGO ROCK ISLAND AND PACIFIC RAILROAD.

Articles.	Chicago to—							Chicago from—						
	Ottawa.	Davenport.	Atchison.	Leavenworth.	Kansas City.	Des Moines.	Council Bluffs.	Ottawa.	Davenport.	Atchison.	Leavenworth.	Kansas City.	Des Moines.	Council Bluffs.
Agricultural implements, C. L. per 100 lbs.	$0 12½	$0 19	$0 37.5	$0 37.5	$0 37.5	$0 35	$0 37.5	$0 12.5	$0 19	$0 37.5	$0 37.5	$0 37.5	$0 35	$0 37.5
Apples, green, in barrels, C. L. do	11.6	17	28.8	28.8	28.8	31.5	28.8	11.6	17	28.8	28.8	28.8	31.5	28.8
Bacon, in boxes or casks, C. L. do	14.8	17.6	28	28	28	30	28	14.8	17.6	25	25	25	30	25
Beans, C. L. do	6	14	28	28	28	30	28	6	14	28	28	28	30	28
Beef, salted, in barrels, C. L. do	14.8	17.6	28	28	28	30	28	14.8	17.6	25	25	25	30	25
Butter, in tubs or firkins, C. L. do	18.5	22	32	32	32	35	32	18.5	22	32	32	32	35	32
Cheese, in boxes or casks, C. L. do	14.8	17.6	32	32	32	35	32	14.8	17.6	32	32	32	35	32
Cotton, pressed in bales, C. L. do	18.5	22	32	32	32	35	32	18.5	22	32	32	32	35	32
Eggs, in cases or barrels, C. L. do	18.5	22	32	32	32	35	32	18.5	22	32	32	32	35	32
Fertilizers, in bags, C. L. do	7	12	23	23	23	20	23	7	12	23	23	23	20	23
Grain, in bags, C. L. do	6	13	20	20	20	20	20	6	13	20	20	20	20	20
Guano, in bags, C. L. do	25.6	31	50	50	50	45	50	25.6	31	50	50	50	45	50
Hams, in boxes or barrels, C. L. do	14.8	17.6	28	28	28	30	28	14.8	17.6	25	25	25	30	25
Hay, baled, C. L. do	7	12	23	23	23	20	23	7	12	23	23	23	20	23
Hides:														
Dry, loose, C. L. do	57	64.5	1 35	1 35	1 35	1 12.5	1 35	57	64.5	50	50	50	1 12.5	50
Green in bundles, C. L. do	12.5	19	32	32	32	35	32	12.5	19	28	28	28	35	28
Horses and mules, C. L. car	24 15	36 00	67 50	67 50	67 50	72 00	67 50	24 15	36 00	67 50	67 50	67 50	72 00	67 50
Cattle, C. L. do	21 00	32 00	65 00	65 00	65 00	60 00	65 00	21 00	32 00	65 00	65 00	65 00	60 00	65 00
Sheep (single deck), C. L. do	18 00	28 00	45 00	45 00	45 00	49 00	45 00	18 00	28 00	45 00	45 00	45 00	49 00	45 00
Hogs:														
C. L. do	21 00	32 00	65 00	65 00	65 00	60 00	65 00	21 00	32 00	42 50	42 50	42 50	60 00	42 50
Dressed (common cars), C. L. 100 lbs.	12.5	19	32	32	32	35	32	12.5	19	32	32	32	35	32
Hops, C. L. do	31.5	36	75	75	75	60	75	31.5	36	75	75	75	60	75
Lard, in tierces, C. L. do	14.8	17.6	28	28	28	30	28	14.8	17.6	25	25	25	30	25
Lime, in casks or barrels, C. L. do	7	12	23	23	23	25	23	7	12	23	23	23	25	23
Lumber, common, C. L. do	8.75	12	15	15	15	20	15	8.75	12	15	15	15	20	15
Meal, in bags or barrels, C. L. do	6	14	25	25	25	25	25	6	14	25	25	25	25	25
Mowing machines, C. L. do	12.5	19	37.5	37.5	37.5	35	37.5	12.5	19	37.5	37.5	37.5	35	37.5
Pork, salted in barrels, C. L. do	14.8	17 6	28	28	28	30	28	14.8	17.6	25	25	25	30	25
Potatoes:														
Common, in bags or barrels, C. L. do	6	14	25	25	25	25	25	6	14	25	25	25	25	25
Sweet, in barrels, C. L. do	12.5	19	32	32	32	35	32	12.5	19	32	32	32	35	32
Rice, in tierces, C. L. do	11.6	17	28	28	28	30	28	11.6	17	28	28	28	30	28
Salt, in sacks, C. L. do	*26.5	*35	21⅝	21⅝	21⅝	19	21⅝	*26.5	*35	21⅝	21⅝	21⅝	19	21⅝
Wool, pressed in bales, C. L. do	12.5	19	90	90	90	75	90	12.5	19	55	55	55	75	55

C. L.—Carload. *Per barrel.

FREIGHT RATES—RAILROAD COMPANIES.

LOUISVILLE AND NASHVILLE RAILROAD.

Articles.	Louisville to—			Louisville from—		
	Atlanta.	Savannah.	New Orleans.	Atlanta.	Savannah.	New Orleans.
Agricultural implements, C. L ....per 100 lbs..	$0 59	$0 58	$0 35	$0 59	$0 58	$0 37
Apples, green, in bbls....do....	46	46	30	46	46	45
Bacon, in boxes or casks ....do ..	40	32	25	40	32	37
Beans ....do ..	59	58	35	59	58	37
Beef, salted, in bbls .... per bbl..	1 20	96	1 12	1 20	96	*37
Butter, in tubs or firkins ....per 100 lbs..	88	75	67	88	75	55
Cheese, in boxes or casks ....do	73	70	45	73	70	55
Eggs, in cases or bbls....do....	88	75	67	88	75	70
Fertilizers, in bags .... per ton	3 80	*26½	.....	380	*26½	*37
Grain, in bags ....per 100 lbs..	33	29	28	33	29	37
Guano, in bags ....per ton..	3 80	*26½	..	3 80	*26½	*37
Hams, in boxes or bbls .... per 100 lbs..	40	32	25	40	32	37
Hay, baled....do....	33	29	28	33	29	28
Hides:						
Dry, loose ....do ..	1 18	95	1 07	1 18	95	70
Green, in bundles ....do ..	73	70	45	73	70	37
Horses .... per car..	95 00	153 00	100 00	95 00	153 00	80 00
Mules ....do....	95 00	153 00	100 00	95 00	153 00	80 00
Cattle ....do	95 00	153 00	100 00	95 00	153 00	80 00
Sheep, single deck....do ..	95 00	153 00	100 00	95 00	153 00	80 00
Hogs....do....	95 00	153 00	100 00	95 00	153 00	80 00
Hogs, dressed (common cars) ....per 100 lbs..	88	75	67	88	75	37
Hops ....do....	1 02	80	77	1 02	80	55
Lard, in tierces....do....	40	32	25	40	32	37
Lime, in casks or bbls., L. C. L ....do....	46	46	30	46	46	30
Meal, in bags or bbls....do....	33	33	28	33	33	45
Mowing machines....do....	59	58	35	59	58	37
Pork, salted, in bbls.... .... per bbl..	1 20	96	1 12	1 20	96	*37
Potatoes:						
Common, bags or bbls....per 100 lbs..	46	46	30	46	46	†70
Sweet, in bbls ....do	46	46	30	46	46	†70
Rice, in tierces ....do....	59	58	35	59	58	35
Salt, in sacks ....do....	13	20	45	13	20	37
Wool, pressed, in bales....do	88	75	67	88	75	67

C. L.—Car-load.
L. C. L —Less than car-load.
* Per 100 lbs.
† Per bbl.

TRANSATLANTIC FREIGHT RATES.

Articles.	Monarch Line: New York to London.			Inman Line: New York to Liverpool.		
	May.	June.	July.	May.	June.	July.
Wheat....per bush..	$0 05	$0 08	$0 08	$0 03	$0 06	$0 06
Corn ....do ..	05	08	08	03	06	06
Flour.... ....per bbl..	42	60	48	12	36	30
Flour (sacks)...per 2,240 lbs..	2 40	4 20	3 90	1 20	3 00	2 40
Bacon .... do....	4 80	6 00	6 00	2 40	3 60	3 00 to 3 60
Lard ....do ..	4 80	6 00	6 00	2 40	3 60	3 00 to 3 60
Cheese ....do	5 40	7 20	7 20	3 60	4 80 to 6 00	6 00 to 9 60
Tallow ....do....	4 80	6 00	5 40	2 40	3 60	3 60
Beef ....per tierce..	1 14	1 20	1 14	48	72	60 to 72
Pork ....per bbl..	72	72	84	30	48	42 to 48
Oil-cake ....per 2,240 lbs..	2 40	3 60	3 60	1 20 to 1 80	2 40 to 3 00	2 40
Cotton ....per lb..	.....	.....	.....	00¼	00 9/32	00¼
Hops ....do....	01	.....	.....	.....	.....	00½
Tobacco....per hhd..	6 00	7 20	6 00	4 80	4 80	4 80
Rosin .... per 280 lbs..	42	60	54	18	36 to 48	36
Lard, in small packages, per 2,240 lbs	6 00	7 20	7 20	2 40 to 3 60	6 00	4 80
Tobacco, in cases, per 40 cu. ft.	3 60	4 80	4 80	3 60	4 80	4 80
Measurement, per ton, 40 cu.ft.	2 40 to 3 60	4 80	4 20	3 00 to 4 80	4 80 to 6 00	3 60 to 6 00
Primage....per cent..	5	5	5	5	5	5

Transatlantic freight rates—Continued.

Articles.	Anchor Line: New York to Glasgow.			General Transatlantic Company: New York to Havre.		
	May.	June.	July.	May.	June.	July.
Wheat ..... per bush..	$0 04	$0 08	$0 09	$0 12	$0 12	$0 11
Corn ..... do....	04	08	*09	12	13	11
Flour ..... per bbl..	36	36	36	1 00	75	80
Flour (sacks) ..... per 2,240 lbs..	3 00	3 00	3 60	†22½	†22½	5 05
Bacon ..... do....	4 80	4 80	6 00	5 04	5 04	4 48
Lard ..... do....	3 60	4 20	4 80	5 04	5 04	4 48
Cheese ..... do	7 20	7 20	10 20	8 96	6 72	4 48
Tallow ..... do....	3 00	3 60	4 80	5 04	5 04	4 48
Beef ..... per tierce..	96	96	1 20	1 25	1 00	1 00
Pork ..... per bbl..	66	66	90	1 00	1 00	1 00
Oil-cake ..... per 2,240 lbs..	2 40	3 00	3 60	8 96	6 72	6 72
Cotton ..... per lb..	.....	.....	.....	00$\frac{13}{32}$	00$\frac{3}{8}$	00$\frac{3}{8}$
Hops ..... do	01	00¾	00¾	00¾	00¾	00¾
Tobacco ..... per hhd..	4 80	4 80	4 80	8 00	8 00	8 00
Rosin ..... per 280 lbs..	30	42	42	1 00	75	1 00
Lard, in small packages, per 2,240 lbs	6 00	6 00	7 20	†27½	†27½	5 60
Tobacco, in cases ..... per 40 cu. ft....	4 80	4 20	4 80	8 00	8 00	8 00
Measurement, per ton ..... 40 cu. ft ...	3 60	3 60	4 20	8 00	8 00	8 00
Primage ..... per cent..	5	5	5	5	5	5

Articles.	North German Lloyd Steamship Company: New York to Bremen.			Guion Line: New York to Liverpool.		
	May.	June.	July.	May.	June.	July.
Wheat ..... per bush..	†$0 15	†$0 18	†$0 20	$0 02	$0 06	$0 06
Corn ..... do ..	†15	†18	†20	02	06	06
Flour ..... per bbl..	72	72	70	18	24	36
Flour (sacks) ..... per 2,240 lbs..	†24	†24	†23	1 20	2 40	2 40
Bacon ..... do....	†24	†24	†23	2 40	2 60	3 60
Lard ..... do....	†24	†24	†23	2 40	3 60	3 60
Cheese ..... do ..	†30	†36	†23	3 60	6 00	9 60
Tallow ..... do	†24	†24	†23	2 16	3 60	3 60
Beef ..... per tierce..	1 25	1 25	1 30	48	72	72
Pork ..... per bbl..	84	84	85	30	48	48
Oil-cake ..... per 2,240 lbs..	†24	†20	†20	1 20	2 40	3 00
Cotton ..... per lb..	†50	†45	†45	00¼	00$\frac{3}{32}$	00¼
Hops ..... do	†1 00	†1 00	†90	.....	.....	00¼
Tobacco ..... per hhd..	6 00	6 00	6 00	6 00	6 00	6 00
Rosin ..... per 280 lbs..	†18	†12	75	20	.....	48
Lard, in small packages, per 2,240 lbs.....	†30	†30	†30	3 00	4 80	6 00
Tobacco, in cases .... per 40 cu. ft..	‡2 00	‡2 00	‡2 00	3 60	6 00	4 80
Measurement, per ton ..... 40 cu. ft	6 00 to 10 00	4 80 to 8 00	6 40	2 40 to 3 00	4 80	4 80
Primage ..... per cent..	.....	.....	.....	5	5	5

* Per 60 pounds. † Per 100 pounds. ‡ Per case.

TRANSPORTATION RATES.

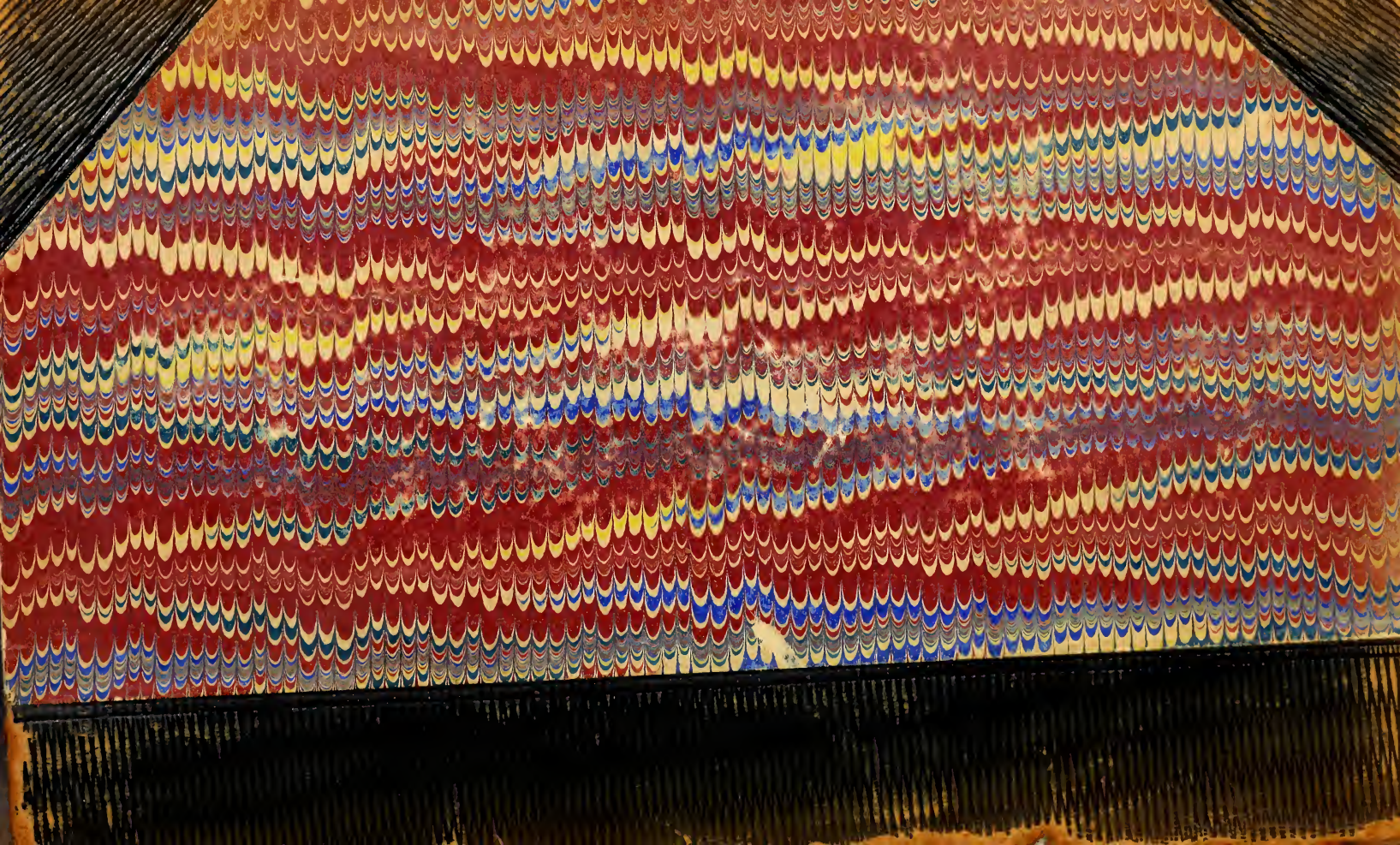
Articles.	Portland Steam Packet Company. Between Boston and Portland.	Old Colony Steamboat Company. Between New York and Boston.
Agricultural implements ..... per 100 lbs	$0 25	*$0 15
Apples ..... per bbl	15	25
Bacon, in boxes ..... per 100 lbs	10	12½
Beans ..... per bbl	20	.....
Beef, salted ..... do	20	30
Butter, in tubs or firkins ..... per 100 lbs	15	20
Cheese, in boxes ..... do	15	20
Cotton, in bales ..... do	10	.....
Eggs:		
In bbls ..... per bbl	25	.....
In cases ..... per foot	03	.....
Fertilizers, in bags ..... per 100 lbs	10	11
Flour ..... per bbl	.....	20
Grain ..... per bushel	06	per 100 lbs 10
Guano, in bags ..... per 100 lbs	10	.....
Hams, in casks ..... do	10	.....
Hides:		
Dry ..... do	20	.....
Dry, in bales ..... do	15	.....
Green ..... do	10	.....
Hogs, dressed ..... do	10	18
Hops ..... do	20	.....
Lard, in tierces ..... do	10	per tierce 50
Lime, in bbls ..... per bbl	30	.....
Lumber:		
Hard ..... per 1,000 feet	3 00	†15
Soft ..... do	2 00	.....
Meal:		
In sacks ..... per 100 lbs	10	.....
In bbls ..... per bbl	15	.....
Pork, salted ..... per 100 lbs	10	per bbl 30
Potatoes:		
In sacks ..... per bushel	06	or bbls 10
In bbls ..... per bbl	15	.....
Sweet, in bbls ..... do	15	25
Rice, in tierces ..... per 100 lbs	10	.....
Salt, in sacks ..... do	10	10
Tobacco, unmanufactured, in hogsheads ..... do	10	14
Wool:		
In sacks ..... do	15	domestic, in bags 30
In sacks, washed ..... do	30	.....
In sacks, pressed ..... do	10	foreign 18
Cattle, single ..... per head	.....	9 00
Horses, single ..... do	.....	9 00
Sheep ..... do	.....	4 50

*Knocked down.
†All kinds, per 100 lbs.

FREIGHT RATES--STEAMSHIP COMPANIES.

Detroit and Cleveland Steam Navigation Company.

Articles.	Between Detroit and—	
	Cleveland.	Mackinaw.
Agricultural implements ..... per 100 pounds	$0 15	$0 20
Apples ..... do	10	15
Bacon ..... do	8	12½
Beef, salted, in barrels ..... do	8	12½
Butter, in tubs or firkins ..... do	18	20
Cheese, in boxes or casks ..... do	15	20
Fertilizers, in bags ..... do	6	10
Flour ..... do	8	12½
Hay, pressed, in bales ..... per ton	2 00	2 50
Lard, in tierces ..... per 100 pounds	8	12½
Pork, salted, in barrels ..... do	8	12½
Potatoes:		
Common, sacks or barrels ..... do	8	12½
Sweet, sacks or barrels ..... do	10	15
Salt, in bags ..... do	8	12½
Wool:		
Foreign, pressed, in bales ..... do	15	20
Domestic, in bags ..... do	20	25
Cattle ..... per head	2 00	3 00
Horses ..... do	3 00	4 00
Sheep ..... do	40	50
Hogs:		
Alive ..... do	50	60
Dressed ..... per 100 pounds	15	25
Grain ..... do	8	12½
Tobacco, unmanufactured, in hogsheads ..... do	10	15

MEMPHIS AND OHIO RIVER PACKET COMPANY.

Articles.	Memphis to—			Memphis from—		
	Cairo.	Louisville.	Cincinnati.	Cairo.	Louisville.	Cincinnati.
Agricultural implements ..... per 100 pounds	$0 25	$0 25	$0 25	$0 25	$0 30	$0 35
Apples ..... per barrel	20	20	20	20	25	25
Bacon ..... per 100 pounds	15	15	12½	12½	15	15
Beef, salted, in barrels ..... per barrel	30	30	25	25	30	40
Butter, in tubs or firkins ..... per 100 pounds	15	15	12½	12½	15	30
Cheese, in boxes or casks ..... do	15	15	12½	12½	15	30
Fertilizers, in bags ..... do	12½	12½	12½	12½	15	20
Flour ..... per barrel	20	20	20	20	25	30
Hay, pressed, in bales ..... per 100 pounds	15	15	15	15	20	20
Lard, in tierces ..... do	15	15	15	12½	15	15
Lumber ..... per 1,000 feet	7 00	7 00	7 00	10 00	10 00	10 00
Pork, salted, in barrels ..... per barrel	30	30	30	25	30	40
Potatoes:						
Common, sacks or barrels ..... per barrel	20	20	20	15	25	25
Sweet, sacks or barrels ..... do	20	20	20	15	25	25
Salt ..... do	20	20	20	20	30	30
Wool:						
Foreign, pressed, in bales ..... per 100 pounds	25	25	25	25	40	50
Domestic, in bags ..... do	25	25	25	25	40	50
Cotton ..... per bale	50	50	50	75	75	75
Cattle ..... per head	1 50	1 50	1 50	3 00	4 00	3 00
Horses ..... do	2 50	3 00	3 00	4 00	5 00	4 00
Sheep ..... do	50	50	50	50	60	60
Hogs:						
Live ..... per head	75	75	75	60	75	75
Dressed ..... per carcass	50	50	50	50	60	60
Grain ..... per 100 pounds	12½	12½	12½	15	15	15
Tobacco, unmanufactured, in hogsheads ..... do	20	20	20	25	30	35